Rethinking the leadership-employee creativity relationship

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A regulatory focus approach

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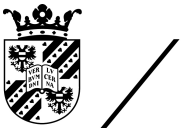
Publisher: University of Groningen, Groningen, The Netherlands

Printed by: Ipskamp Printing B.V., Enschede, The Netherlands

ISBN: 978-90-367-8545-7 (book)

ISBN: 978-90-367-8544-0 (e-book)



rijksuniversiteit
groningen

Rethinking the leadership-employee creativity relationship

A regulatory focus approach

Proefschrift

ter verkrijging van de graad van doctor aan de
Rijksuniversiteit Groningen
op gezag van de
rector magnificus prof. dr. E. Sterken
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

maandag 15 februari 2016 om 16.15 uur

door

Ramzi Said

geboren op 22 augustus 1988
te Gouda

501565-L-bw-Said

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CHAPTER 1

GENERAL INTRODUCTION

"There is no doubt that creativity is the most important human resource of all. Without creativity, there would be no progress, and we would be forever repeating the same patterns"

— Edward de Bono

"Leaders establish the vision for the future and set the strategy for getting there; they cause change. They motivate and inspire others to go in the right direction and they, along with everyone else, sacrifice to get there"

— John Kotter

Probably the best-known example of a leader with a vision to change the world was Steve Jobs. He inspired people at Apple to improve the world with innovative products. All these products were born from creative ideas. Steve Jobs understood the power of human creativity, and he did everything possible to motivate his employees to pursue creative paths. In fact, Steve Jobs rescued Apple by having employees think (more) creatively. After he was kicked out in the mid-80s, Jobs returned to Apple in 1997, and actually saved the company from bankruptcy. He did this by using the "Think Different" campaign, which led to the revival of Apple as technology-powerhouse. This campaign resulted in employees (and customers) to think differently about Apple and its products. Employees were, and still are, stimulated to come up with creative ideas for products that can simplify the world we

live in. Clearly, Apple needed Steve Jobs' leadership to be creative, to change as a company and to cause change in our lives, and thereby to survive as a company.

The quotes and story above reflect what we examined the past four years, and what this thesis is about: creativity, as valuable human resource related to progress, and what leaders (can) do to enhance or inhibit this resource. Indeed, as the second quote demonstrates, leaders can motivate and inspire others to go in the right direction, and this direction may entail creativity or not. As for Steve Jobs, he valued creativity, and motivated his employees to become creative. This, however, may not be the case for every leader. The purpose of this thesis is to systematically examine how, why, and when organizational leaders (managers, supervisors) stimulate or stifle employee creativity (meaning creative behaviors of employees in work settings). We in particular focus on a relatively new leadership construct, called *leader regulatory focus*, to examine what the influence is of the types of goals that leaders set on employee creativity.

In this introduction, we first deal with the concept of creativity: we explain what it is, how it has been examined historically, and highlight the bright and dark sides of employee creativity. Then, we shift our attention to the leader, and explain how leadership until now has been related to employee creativity. We argue that previous approaches do not adequately address how leaders affect employee creativity through the types of goals that they set and adopt. After that, we propose a new approach to leadership – leader regulatory focus – to more effectively examine how leader behavior is related to employee creativity. We end this introduction with an overview of the chapters in this thesis.

Employee creativity: what is it?

Creativity in an organizational context has been defined as "the production of novel and useful ideas in any domain" (Amabile, Conti, Coon, Lazenby, & Herron, 1996: 1155). These ideas can be about products, processes, procedures, or services, and the main goal of these creative ideas is to change the situation for the better (Amabile, 1996). Novelty implies that ideas are unique in comparison to the other ideas that are currently available in the organization, whereas usefulness implies that the ideas have potential value to the organization, be it direct or indirect, in the short- or long-term (Oldham & Cummings, 1996; Shalley, Zhou & Oldham, 2004). Both novelty and usefulness are required to label an idea as creative: a novel idea without value is unusual but not creative, whereas a useful idea that is not novel does not bring any news to the table (Zhou & George, 2003).

Inherent to this definition is the fact that creativity can range from incremental improvements in current ways of working to radical breakthroughs and major discoveries (Mumford & Gustafson, 1988). One is not inherently better than the other, and both may be necessary depending on the situation. In times of economic crisis, doing something completely different may be necessary for organizations to survive, while in times of relative calm waters incremental creativity may be desirable to gradually improve products, services, and work processes and enhance profitability. These different types of creativity may thus have different consequences, and research shows that they may also differ in their antecedents and underlying processes (Gilson & Madjar, 2011; Madjar, Greenberg, & Chen, 2011).

Moreover, given this definition, three more features of employee creativity become apparent (see also Madjar, Oldham, & Pratt, 2002; Mumford, Scott, Gaddis, & Strange, 2002; Shalley, Gilson, & Blum, 2000; Shalley et al., 2004; Zhou &

George, 2003). First, creativity can be present in any (type of) organization. Whereas people often think that creativity is solely present in the traditional "creative companies" such as those companies operating in creative industries and the technology sector, employee creativity can also been found in organizations that seemingly put less emphasis on generating new ideas. An example of a company that is traditionally seen as creative is Google, that, in order to stimulate creativity, gives employees 20% time off to think about and work on their own ideas that do not necessarily relate to their job descriptions. And apparently this works, as evidenced by the well-used services such as Gmail and Google maps, for which the ideas were born or prototyped in this time off (although this could also be due to the fact that Google' headquarter Googleplex has swimming pools, sport courts, relax rooms, free food, and what not). Take hospitals as example of the second group of organizations: while employees often have to follow strict guidelines to avoid costly (and in some cases deadly) errors, an act of radical creativity is sometimes necessary to be able to respond effectively to unusual threats (think about how to handle an unexpected virus outbreak). Moreover, incremental creativity can systematically enhance processes in hospitals, such as the efficiency of patient flows.

A second feature, following the first, is that employees in any kind of job can show creativity. Especially within larger organizations, there are different kinds of jobs, ranging from finance to marketing, communication, HR, management, and support staff. In every one of these jobs, employee creativity can be present and beneficial to effective functioning. It could even be the case that within the same department, some individuals generate many radical creative ideas, whereas others are more likely to slightly adjust the current way of working. Just think about your own

team or department, where probably some colleagues suggest revolutionary ideas, whereas others are more occupied by steady minor improvements.

The third and final feature, which logically follows the previous two, is that creative ideas can be produced at any level of the organization. It can be the CEO of a multinational company that generates an idea about how to handle dropping revenues, to the R&D scientist that has a new discovery, to the assembly line worker that suggests a new way to increase productivity. One company in which all employees can generate creative ideas is Toyota. At Toyota, there is a system of continuous improvement: employees at all levels, literally from the CEO to the assembly line workers, are encouraged to constantly improve their work and are challenged to use their insights and creativity to experiment and learn. Especially the assembly line workers are the source of many of the company's improvements, given that they have the most in-depth knowledge about the processes and are therefore best able to suggest ways to improve processes (a must read is 'The Toyota Way', written by Jeffrey Liker). Concluding, creativity is not bound by organizational levels, and creativity may be needed and necessary throughout organizations.

Employee creativity: a brief history

The study of individual creativity, in general and even more so in work settings, has long been neglected in the academic literature. It was not until J. P. Guilford's 1950 inaugural lecture as president of the American Psychological Association that the study of human creativity gained a more prominent place on the research agenda. And, it was not until somewhere in the 1980s that creativity was systematically examined in work settings (see for example Amabile, 1988). Most early research (which did not specifically deal with employee creativity) has focused on the "lone genius" (Paulus & Nijstad, 2003: 3) and has romanticized creative

outcomes as the result of an act of greatness of a single brilliant mind (see Mumford et al., 2002; Zhou & George, 2003). We should, however, immediately note that creative ideas are almost never the result of a "flash of genius" (Zhou & George, 2003: 558), or happen as "the result of a sudden insight, a lightbulb flashing on in the dark" (Csikszentmihalyi, 1996: 1). Rather, creativity comes after a long process of hard work, in which individuals have to become experts in the field and get full knowledge of the domain (Weisberg, 1999). And then, indeed sometimes in a moment of idle time, people can have Archimedes' famous "Eureka!-moment", and see everything crystallizing in their mind. This moment, however, is just a small part in the creative process: it is preceded by years of hard work and tremendous effort, and followed by a long period of detailed work to find out whether the idea is genuinely a creative accomplishment. For an excellent example, see the movie 'A beautiful mind', about the life of economist and mathematician John Nash (played by Russell Crowe). For him, everything suddenly became clear while sitting in a bar, and right there and then finds evidence for the now famous Nash-equilibrium. However, it took him years of hard work to come to that point, he even sits in the bar with his books and notes, and after having this epiphany he spent many hours working out his creative idea. Edison's 1% inspiration and 99% perspiration rule indeed seems to hold for the act of creativity (see also Csikszentmihalyi, 1996).

The research from the 1950s to the 1980s mainly aimed to uncover the personality characteristics or cognitive styles of creative individuals (not necessarily within organizational settings; for overviews see Barron & Harrington, 1981; Feist, 1998). Indeed, research on creativity has for several decades been dominated by a search for the personal characteristics of individuals that could predict their creative performance (Oldham & Cummings, 1996). With Amabile as captain of the ship,

research in the 1980s has started to systematically study creativity at work (e.g., see Amabile, 1988) and has proposed that the social environment also plays an important role when studying employee creativity (see Amabile, 1983, 1988, 1996; Amabile et al., 1996; Oldham & Cummings, 1996; Scott & Bruce, 1994). The central premise is that contextual factors, such as leadership, may promote or inhibit employee creativity, and that creativity is not necessarily tied to creative personalities. Nevertheless, it is likely that personal and contextual factors combine and interact to affect employee creativity (the so-called interactionist approach; e.g., Amabile, 1996; Oldham & Cummings, 1996; Shalley et al., 2004; Woodman, Sawyer, & Griffin, 1993). In this thesis, we first follow the contextual approach to creativity to argue that leadership can have an important effect on employee creativity. After that, in Chapter 3, we also look at a personality factor – creative self-efficacy – to examine how personality and leadership interact to predict employee creativity.

Employee creativity: the good, the bad, and the ugly

While creativity can have many positive effects on organizational functioning, it can also have (unintended) negative effects. Starting with the good, creative ideas make it possible for organizations to be flexible and adjust to complex and dynamic business environments. This enables organizations to respond to opportunities in the market, and therefore be competitive and grow (Shalley et al., 2004). Basically, organizations need a creative workforce to have a competitive advantage and thereby stay in business (Oldham & Cummings, 1996). More and more evidence suggests that creativity of employees is related to organizational effectiveness and survival, and this is mainly due to the fact that every innovative product starts with a creative idea (Amabile, 1988; Amabile, 1996; Woodman et al., 1993; Zhou & George, 2003). Returning to the story at the start of this thesis: Apple needed employees to think

differently and be creative, given that these creative ideas were necessary for making innovative products. Thus, in today's dynamic and turbulent business markets, companies need employee creativity to survive and prosper.

Although research has focused on its positive effects, employee creativity has its dark side. Creative ideas, and especially the pursuit and implementation of creative ideas, may have (unintended) negative consequences for both the organization and the individual who generated the creative idea (Janssen, van de Vliert, & West, 2004; for more examples see Cropley, Cropley, Kaufman, & Runco, 2010). For the organization, there is always the possibility that (the implementation of) a creative idea might fail. While this may not be catastrophic for incremental adjustments, when trying to generate a completely new idea for a product, for example a pharmaceutical company investing the lion's share of its funds into developing a new medicine, failure may have disastrous consequences for the (survival of the) organization. According to a research conducted by Forbes in 2013, pharmaceutical companies spend between $350 million and $5.5 billion on R&D costs per drug (yes, you read it correctly, per drug) with an average spending of around $1.2 billion per drug. Moreover, on average 95% of medicines do not reach the market because they are not effective and/or safe. Hence, in these cases, creative failure may bankrupt a company. The upside is that potential revenues are also huge, as exampled by Pfizer's Lipitor medicine to control high cholesterol levels, with annual revenues of $11 billion (for more numbers, see Ding, Dong, Eliashberg, & Gopalakrishnan, 2014).

Moreover, engaging in creativity can create conflict, tension, and resistance, given that creative behavior implies a change in the status quo (Janssen et al., 2004; Zhou & George, 2003). As Picasso once famously stated "every act of creation is first an act of destruction". Thus, there is always a price to pay for creativity, and

especially in the short term some creative ideas may lead to a drop in performance because of the resistance towards the idea, but also because of the implementation costs associated with the creative idea. Indeed, changing a process or developing a product (think about the medicine-example above) may take much time and money. The act of creativity can also have a negative impact on the person initiating it. As outlined by Janssen and colleagues (2004), employees proposing a creative idea can come into conflict with those persons resisting the change. This causes frustration and animosity, which can lead the employees who propose the new idea to have less positive working relationship with colleagues, feelings of stress, and lower individual performance. Moreover, individuals who show creative behavior are sometimes considered the "odd man out" (Mumford et al., 2002: 710), or even arrogant and selfish, given that these individuals may spend limited attention to others, are critical, and not easily persuaded (see Csikszentmihalyi, 1996).

Finally, the ugly side of creativity reflects a more philosophical view on what happens when employee creativity would run dry. The ugly-part maybe has the most overlap with the creativity quote we used to start this thesis: a working life without employee creativity is no life. Employees would forever be doing the same work, in the same way, with no improvements (Zhou & George, 2003). Employee creativity can be seen as the engine behind organizations' innovative capacity and thereby survival, and if this engine stalls, all is lost. Csikszentmihalyi (1996), in his famous book on creativity, indeed stated that the future is closely related to human creativity, whether we like it or not. Human activities, including work activities, have become dependent upon creativity, and organizations (and humans for that matter) would not be able to survive without creative ideas that lead to progress and improvement.

Leadership and employee creativity

Leadership has in more recent times been regarded as an important predictor of employee creativity (e.g., Mainemelis, Kark, & Epitropaki, 2015; Mumford et al., 2002; Zhou & George, 2003). Different researchers underline this notion: Mumford and colleagues (2002: 705) state that "leaders and their behavior represent a particularly powerful influence [on employee creativity]"; Zhou and George (2003: 549) argue that in stimulating or inhibiting employee creativity "leaders play an important, if not decisive role"; and, finally, Mainemelis and colleagues (2015: 407) recently noted that the supportive contributions of leaders "often exert a critical influence on creativity in the work context". Indeed, leaders are the power holders in the work context who can stimulate or stifle employee creativity because they control relevant resources, and are also the gatekeepers who determine the faith of creative ideas (Csikszentmihalyi, 1999). Thus, leaders, as core people within employees' work context, can make the difference in whether employees show creative behaviors or not.

Leadership, however, has not always been seen as a determinant of employee creativity (Jung, 2001; Mumford et al., 2002). As noted by Mumford and colleagues (2002: 706): "conspicuously absent from the list of potential influences [on employee creativity], however, is leadership". This is probably due to the fact that researchers have often ascribed creative ideas to the accomplishments of a single genius (as previously noted). For these brilliant people, leadership would be more likely to act as a hindrance than a facilitator. Note however, that even back in the 1960s (e.g., Andrews, 1967; Pelz, 1963), research has empirically shown that leadership is important for creativity in organizational settings. It was not until the late 80s that

research again started to examine the effects of leadership on employee creativity (Mumford et al., 2002).

So why do employees actually respond to the behaviors of their leader, and why is leadership especially important to employee creativity? Employees act upon the behaviors of their supervisors for two main reasons (also see Yukl, 2010). First, leaders control valuable resources (e.g., time, money, information) that employees want or need to have, and allocate (interesting and challenging) tasks to employees, which employees would like to perform. Second, leaders reward or punish employees based on their behaviors and performance. Hence, employees follow the directions of their leader, given that this will increase the likelihood that they will receive the resources, tasks, and rewards they value. We see three main reasons why leadership has a particularly strong influence on employee creativity. First, and most importantly, creativity is not a part or requirement of the job for most employees (exceptions can for example be found in R&D; see also Zhou & George, 2003). Given this, employees are more likely to stick to habitual (in-role) performance instead of engaging in creative behaviors (Ford, 1996). Indeed, creative actions and routine behaviors may sometimes be competing options. Therefore, to evoke creative actions of employees, clear guidance, motivation, and expectations from the supervisor are necessary, which signals to employees that they are allowed or required to engage in creative activities. Second, since engaging in creativity can be a stressful, demanding, and time-consuming endeavor, employees are likely to withdraw from creative efforts without encouragement from their leader (Mumford et al., 2002; Scott, 1995). Creativity is oftentimes accompanied by risk, uncertainty, and anxiety, given that many creative ideas may fail (as for example characterized by the 95% failing-rate of new medicines; Mumford et al., 2002; Zhou & George, 2003). Thus, employees need

support from their supervisor to sustain creative efforts over time. Finally, there should be enough opportunities for employees to show creativity, and this depends on the work environment and how employees perceive the environment (Mumford et al., 2002). Leaders shape the environment, and can thereby create or obstruct opportunities for creative actions.

Research has examined many leadership constructs in relation to employee creativity, and has found that multiple leadership styles or behaviors may promote or inhibit employee creativity (for extensive reviews see Mainemelis et al., 2015; Mumford et al., 2002; Rosing, Frese, & Bausch, 2011). Some of the most well-known leadership constructs that have been related to employee creativity are transformational leadership, transactional leadership, supervisory support, (close) monitoring, and leader-member exchange (LMX, the relationship between leaders and employees). Leaders, by using or implementing one or more of these leadership styles, can have a direct or an indirect influence on employee creativity (Zhou & George, 2003). Leaders can have direct effects on employees' creative accomplishments by showing those behaviors that guide employees to generate creative ideas or to refrain from engaging in creative efforts. For example, transformational leadership has in some studies (e.g., Gong, Huang, & Farh, 2009) been found to positively relate to employee creativity, among others because this kind of leadership can intellectually stimulate employees and thereby enhances employees' ability to develop new ideas. Close monitoring behaviors, on the other hand, may directly obstruct employee creativity, because supervisors make sure that employees do exactly what they are told, and perform their work in the right manner, which is likely to inhibit employee creativity (e.g., see George & Zhou, 2001). Leaders, however, can also indirectly affect employee creativity by shaping the environment.

An environment supportive of creativity, for example because leaders and employees have a good working relationship (i.e., a high LMX relationship), may stimulate employees' risk taking, and thereby their creative efforts (e.g., see Scott & Bruce, 1994). An environment that lacks opportunities for creativity, for example because leaders do not give employees the right resources or because the organizational structure does not permit own initiative, may impede creative accomplishments. In general, research has concluded that supporting leadership styles are likely to facilitate employee creativity, whereas leadership styles that are perceived as controlling or limiting may inhibit employees from showing creative behaviors (see also Amabile, 1988; Amabile et al., 1996; Mainemelis et al., 2015; Mumford et al., 2002; Oldham & Cummings, 1996; Shalley et al., 2004).

What is missing in today's leadership approach to employee creativity?

The relationship between leadership and employee creative behaviors is considered complex (Mumford & Licuanan, 2004; Rosing et al., 2011), and "leadership of creative efforts is an unusually complex activity" (Mumford & Licuanan: 163). Not surprisingly then, the results of empirical studies that examined the relationship between leadership and employee creativity have not always been consistent. In fact, meta-analytic findings (see Rosing et al., 2011) showed that the effects of different leadership constructs on employee creativity and innovation in general are small and heterogeneous. As a concern about such inconsistent findings, some scholars have even argued that we know relatively little about why leadership affects employee creativity, and that research on the relationship between leadership and creativity is still in its infancy and needs further theorizing (Atwater & Carmeli, 2009; Mumford et al., 2002; Tierney, 2008). Thus, whereas much (empirical) research has studied the relationship between leadership and employee creativity, results have

been far from clear. Therefore, there is a need for a better, more consistent leadership approach to employee creativity.

We believe that one important reason for these unclear results is that most leadership theories do not, or inadequately, specify the goals that leaders want to attain and the approaches by which those goals should be attained (see also Mumford et al., 2002; Rosing et al., 2011). Hence, examining and identifying the goals leaders set and the approach they prefer to reach those goals may enhance our understanding of the relationship between leadership and employee creativity. By doing so, we actually go back to the essence of leadership, defined by Yukl (2010: 26) as "the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives". Leadership is about influence and the achievement of goals, and leaders are needed to direct employees towards and align people around goals.

To illustrate our point, we more closely examine five leadership constructs that have frequently been related to employee creativity: transformational leadership, transactional leadership, leader support, close monitoring, and LMX. The purpose of this examination is to highlight the possible inconsistent goals that these leadership constructs may entail, and which we believe may explain the ambiguous results found in previous research. Our intention is not to summarize the literature, but rather to use previous results to underline our notion. Appendix A provides an overview of the empirical field studies, including correlations, which deal with the relationship between the aforementioned five leadership constructs and employee creativity. As can be seen in this appendix, correlations vary greatly, and give rather inconclusive findings (similar to Rosing et al's [2011] meta-analytical findings). We believe this is

due to the fact that it is not inherently captured within these leadership constructs which goals should be pursued.

Starting with transformational leadership, theories on transformational and charismatic leadership emphasize motivating employees through an inspiring shared vision (Bass, 1985), but do not specify what specific goals a vision entails. A vision that highlights growth through change may indeed motivate employees' engagement in creative efforts. On the other hand, a vision that inspires employees to work safely and avoid costly errors may provide security and safety goals that hamper (rather than facilitate) creative risk-taking. Thus, it depends on whether creative or non-creative behaviors are valued and required in the workplace (see also Vessey, Barrett, Mumford, Johnson, & Litwiller, 2014). This may be one reason for finding correlations ranging between .00 and .48 (see Appendix A). Not surprisingly then, Mumford and colleagues (2002: 715) argued that "the visioning characteristics of charismatic and transformational leaders may not prove especially useful in leading creative people", whereas Rosing and colleagues (2011: 961) stated that "transformational leadership may help creativity but may also hinder creativity to some extent".

In a similar vein, transactional leadership may promote or hamper employee creativity, as illustrated by the fact that this correlation ranges from -.28 to .20 (see Appendix A). Transactional leaders are known for rewarding employees when desired objectives or results are achieved (Antonakis, Avolio, & Sivasubramaniam, 2003; Judge & Piccolo, 2004). Hence, it is a way to set objectives and control outcomes. The question however remains, what are employees rewarded for? Probably the most common thought is that transactional leaders reward employees for following rules and avoiding errors, and is for example used for supervising assembly-line workers.

Indeed, if these conforming behaviors are valued, then transactional leadership will obstruct creative efforts. However, transactional leaders may also reward employees for showing own initiative, doings things differently, and generating creative ideas. A manager within an R&D department may set very clear objectives regarding the number of new ideas for products, and may reward employees upon achieving these objectives. Thus, if creativity is a valued and expected behavior to show, transactional leadership may in fact promote creative accomplishments by rewarding such behaviors and outcomes. Hence, as the construct of transactional leadership does not specify the type of goals that leaders set for their followers, it comes as no surprise that the results of the relationship between transactional leadership and employee creativity are "mixed and vary widely" (Rosing et al., 2011: 963).

The same reasoning applies to leader support, close monitoring, and LMX (and for most other existing leadership constructs). For leader support, we find correlations ranging between -.19 and .25. When leaders support creative efforts of employees (for example by giving employees resources such as time or information), then employees may indeed benefit from this encouragement and show creative behaviors. On the other hand, when the leader supports employees in doing detailed work and maintaining the situation as it is now, this may hamper employee creativity. Close monitoring has in general been thought to negatively relate to creativity (see e.g., George & Zhou, 2001). But, correlations show mixed findings (ranging from -.45 to .25). As argued by Choi, Anderson, and Veillette (2009), close monitoring may negatively relate to creativity when this monitoring is designed to find errors and faults that justify leaders' demanding behavior. However, it may also relate positively to creativity when close monitoring is used as a strategy to provide detailed performance information that is developmentally oriented and provides helpful,

challenging, and supportive feedback. It thus depends on which goals are strived for using close monitoring behaviors. Finally, the LMX-employee creativity relationship also shows some mixed results (correlations range from -.09 to .52). The LMX relationship between a leader and an employee is established through a role-making and role-negotiation process (Graen & Uhl-Bien, 1995). If the supervisor values creativity, then these creative role expectations will become apparent to employees during the role negotiation process. In this case, LMX may positively relate to creativity. If this is not the case, however, LMX might not be related to creative efforts of employees, given that there is no role requirement for creativity.

Concluding, it is not inherently captured within these examined leadership constructs whether creative activities are valued or not, and we propose that this is one important reason why results are ambiguous and inconclusive. More generally, Shalley and colleagues (2004: 942) argued that there are several explanations for the inconsistent results of context on employee creativity, and that one reason (which follows our explanation) is that "contextual characteristics differ in the extent to which they provide clear and salient informational or controlling cues to individuals". So, the point is that leadership theories have often failed to specify the specific goals that should be attained, and the approaches that should be used to reach those goals.

Towards a new approach to leadership: leader regulatory focus

Based on the above reasoning, and closely following Yukl's (2010) definition of leadership, we developed a new leadership construct that is focused on specific goals and ways to attain those goals. As outlined above, leadership goals can be directed at change and progress, or be related to safety and maintaining the status quo. These goals are effectively captured within Higgins' (1997) regulatory focus theory, and research has therefore argued that leaders can adopt these regulatory foci in their

leadership behavior (see Kark & Van Dijk, 2007; Sue-Chan, Wood, & Latham, 2012; Wu, McMullen, Neubert, & Yi, 2008). The resulting leadership behavior is called leader regulatory focus. It consists of leader promotion focus and leader prevention focus, and these goal-focused behaviors can have clear effects on employee creativity.

Leader promotion focus motivates employees to pursue maximal goals (gains, advancement, ideals) that guide them to progress to a better state. Promotion-focused leadership directs employees to move forward, to pursue new directions in their work, and to improve the current situation (e.g., the current way of working). Employees become motivated and eager to attain these maximal outcomes, and grab every opportunity for progress. Hereby, employees will not restrict themselves to habitual thoughts, but rather use an exploratory processing style related to employee creativity. Thus, leader promotion focus is expected to positively relate to employee creativity. Maybe the most iconic and extreme example of a promotion-focused leader is Jordan Belfort, also known as the real Wolf of Wall Street (as brilliantly played by Leonardo DiCaprio in the Hollywood production). He was obsessed by gains and improvement of the situation, and did not care about potential losses. He motivated his employees to change the situation for the better (which for him implied more money), and his employees at Stratton Oakmont became very creative in finding complex financial constructions to improve the situation and increase profits.

Leader prevention focus, on the other hand, motivates employees to pursue minimal goals (non-losses, security, oughts) that guide them to preserve the current state of affairs. Employees are vigilant to make sure they attain these outcomes, and, to avoid failure, are careful in the strategies they use. Prevention-focused leadership highlights to employees that the current situation should stay the same, and that negative changes should be avoided. Thus, employees experiencing prevention-

focused leadership are likely to only use those ways of working that maintain the status quo, and that avoid any deterioration in performance. Employees are driven by their duties and responsibilities, have a more conservative processing style, and therefore stay away from creative courses of actions. A great example of a prevention-focused leader is the in 2010 newly appointed CEO of BP, Bob Dudley. He had to deal with the consequences of the Deepwater Horizon oil spill that happened in the Gulf of Mexico in April 2010. In three months time, approximately 4.9 million barrels of crude oil polluted the water of the Gulf and the surrounding land, and BP had to reserve tens of billions of dollars for cleanup costs, fines, legal claims and settlements, and modifications to possible other unsafe oil rigs. In handling this process, Dudley's main goal was to prevent any additional oil spills or other disasters, and he was focused on making sure that the whole situation would not become (even) worse. One of his actions was to create a central safety and risk department, so that operations throughout BP were conducted safely and reliably, and fully complied with regulations. Also, employees' performance and rewarding scheme was now directly linked to safety issues and to compliance with BP's standards. Given this emphasis on preventing additional (human, oil, and monetary) losses, employees strictly followed and complied with BP's risk-averse protocols, procedures, and regulations. Following Dudley's prevention-focused leadership, creative courses of action were definitely not on employees' mind.

Concluding, leader regulatory focus specifies clear promotion or prevention focus goals that need to be attained, and clear eager or vigilant strategies to attain those goals. Hereby, leader regulatory focus closely aligns with the essence of leadership, and can thus be used to more directly examine how leadership affects employee creativity. Following this conclusion, the goal of this thesis is to

systematically examine how, why, and when leader regulatory focus affects employee creativity.

Overview chapters

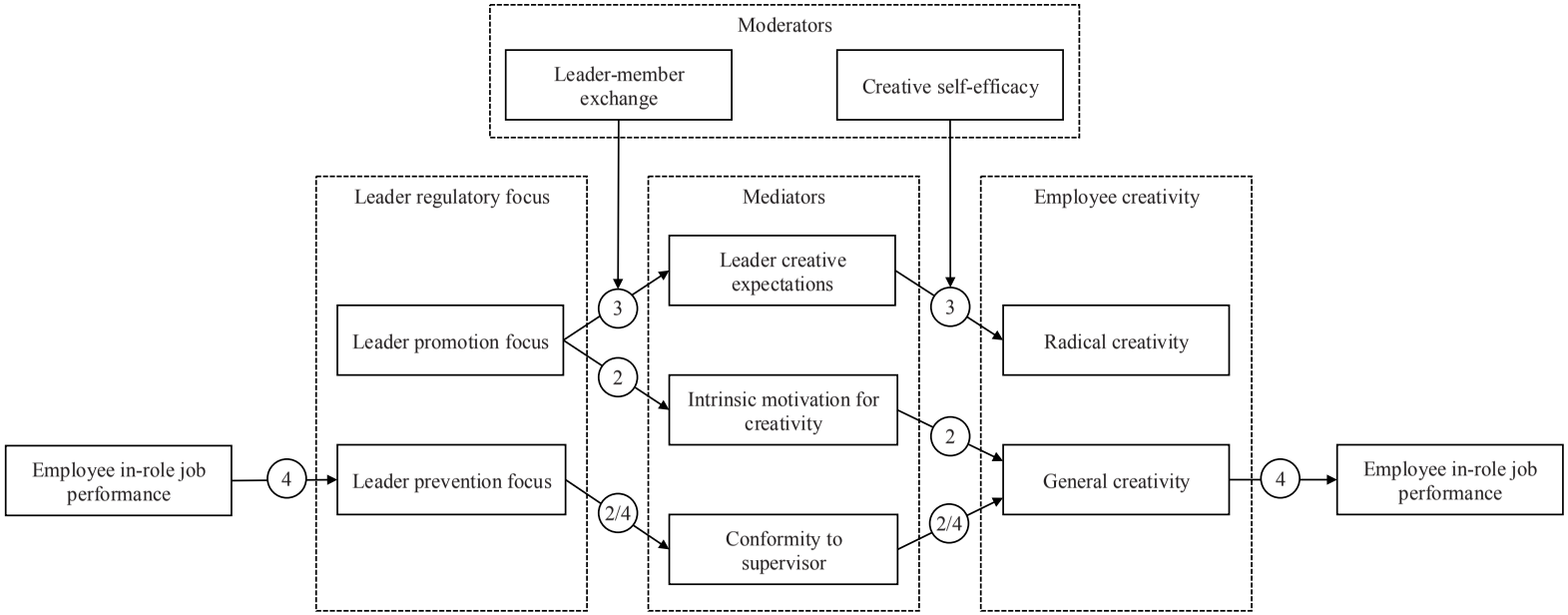
Chapter 2, 3, and 4 of this thesis present three empirical studies in which we examined how, why, and when leader regulatory focus is related to employees' creative behaviors. Chapter 5 provides the general discussion. In every empirical chapter, we use different multi-source (and in Chapter 2 and 4 multi-wave) field data collected among employees and their direct supervisor to test our predictions. We have written the chapters as independent papers, and therefore each chapter can be read separately from the rest of the thesis. Given that all chapters deal with leader regulatory focus and employee creativity, and use field studies to examine the proposed relationships, there is some overlap in the theoretical and methodological approaches. At the same time, given that the different chapters are connected and have overlap in the variables used, taken together these chapters also create a coherent framework about the relationship between leader regulatory focus and employee creativity (see Figure 1.1).

Chapter 2: leader regulatory focus and employee creativity

In Chapter 2 of this thesis, we further examine the concept of leader regulatory focus. We argue and show that leader regulatory focus has incremental predictive validity over and above four well-studied leadership constructs (consideration, initiating structure, and transformational and contingent reward leadership), and we show that leader promotion and prevention focus are related to employee creativity via different processes. Specifically, we propose that employees' intrinsic motivation for creativity explains the relationship between leader promotion focus and employee creativity, whereas employees' conformity to their supervisor mediates the leader

FIGURE 1.1

Graphical overview of investigated relationships



Note. Numbers indicate the chapters in which these relationships are examined.

prevention focus-employee creativity relationship. Hence, in this chapter we show that leader regulatory focus is an important leadership behavior to take into account when studying employee creativity (as it predicts employee creativity over and above other leadership constructs), and we give evidence for explanatory processes. Thus, this chapter specifically deals with the *how* and *why* of leader regulatory focus. We use a two-wave multi-source field study among employees and their direct supervisor from various organizations in the Netherlands to examine our predictions.

Chapter 3: leader promotion focus and employee radical creativity

Although we focus in Chapter 2 on general employee creativity, one can distinguish between incremental and radical creativity (as noted previously). Because radical ideas lead to breakthroughs and have a large effect on organizational functioning, but at the same time imply high risk and uncertainty, it is interesting to examine how leaders can stimulate radical creativity. In Chapter 3, we zoom in on leader promotion focus, and explain why and when it is related to employees' radical creativity. Specifically, following Ford's (1996) theory of creative action, we propose that supervisors' expectations regarding employees' creativity are needed to evoke radical creativity, and that these expectations are the likely result of promotion-focused leadership. Moreover, we explain that to effectively examine how leader promotion focus goals affect these expectations, also the relationship between the leader and the employee (LMX) should be taken into account, because goals are transmitted to employees within a social exchange relationship. Finally, we argue that whether employees turn these expectations into radical creativity depends on their capability beliefs (i.e., creative self-efficacy). Thus, by means of this chapter, we first show that radical creativity needs clear expectations to be evoked, and that leader promotion focus goals can shape these expectations. Second, we show that goal-

focused (leader promotion focus) and relational leadership (LMX) jointly predict the extent to which leaders can convey their influence. Finally, we show that leadership (leaders' creative expectations) and employee personality (creative self-efficacy) combine and interact to promote radical creativity (note that this implies an interactionist approach; Oldham & Cummings, 1996; Woodman et al., 1993). Thus, this chapter specifically deals with the *why* and *when* of the relationship between leader promotion focus and radical employee creativity. To test these predictions, we gathered multi-source field data among employees and their direct supervisor from multiple organizations in the Netherlands.

Chapter 4: leader prevention focus and employee (creative) performance

In Chapter 4, we zoom in on leader prevention focus, and examine employee performance as both an antecedent and consequence of leader prevention focus in a sample of knowledge workers (PhD students with their principal advisors). We argue that leader prevention focus is a way by which supervisors try to deal with suboptimally performing employees: supervisors displaying prevention-focused leadership try to avoid low performing employees to perform even worse. However, while intended as a way to avoid performance deterioration, we propose and show that leader prevention focus actually causes lower performance. The reason for this is that suboptimally performing knowledge workers tend to conform to their prevention-focused supervisor, thereby restricting their creative potential, which subsequently leads to lower performance. By means of this chapter, we show that a well-meant intervention of the supervisor to avoid performance-failure may actually backfire for knowledge workers. Thus, this chapter specifically deals with the *why* of leader prevention focus. To test these predictions, we collected three-wave multi-source field

data among PhD students and their principal advisor from a large research university in the Netherlands.

Chapter 5: general discussion

Finally, in Chapter 5, we give a summary of the findings of the three empirical chapters. We provide extensive theoretical implications following the findings of this thesis. We highlight the limitations of our research, and give clear avenues for future research endeavors. We offer managers practical solutions about how they can use the insights from this thesis to improve the (creative) functioning of their employees. We end with the lessons learned from this thesis.

CHAPTER 2

REGULATING CREATIVITY: HOW AND WHY LEADER REGULATORY FOCUS AFFECTS EMPLOYEE CREATIVITY

We propose that leader regulatory focus (LRF) is an important leadership construct to examine in relation to employee creativity. Using multi-source two-wave data gathered among employees and their supervisors from various organizations in the Netherlands, we find that leader promotion focus is positively related to employee creativity, whereas leader prevention focus negatively relates to creative actions of employees. These relationships hold over and above the effects of four established leadership constructs (consideration, initiating structure, transformational and contingent reward leadership). Moreover, we argue and give evidence for differential mediation: promotion-focused leadership is positively related to creativity because it heightens employees' intrinsic motivation for creativity, whereas prevention-focused leadership negatively relates to creativity because employees conform to their supervisor. Implications of these results for theory and practice are discussed.

INTRODUCTION

Creativity, defined as "the production of novel and useful ideas in any domain" (Amabile et al., 1996: 1155), is of vital importance to organizations' effectiveness and long-term survival (Shalley et al., 2004; Unsworth, 2001; Woodman et al., 1993). Therefore, an important question for managers is how they can stimulate creativity among their workforce (Atwater & Carmeli, 2009; Mumford et al., 2002; Reiter-Palmon & Illies, 2004). The relationship between leadership and employee creativity, however, is considered complex (Mumford & Licuanan, 2004; Rosing et al., 2011; Tierney & Farmer, 2004), and results of empirical studies of this relationship have not always been consistent. For example, Rosing and colleagues (2011) concluded in their meta-analysis that the effects of different types of leadership styles (e.g., transformational leadership, transactional leadership) on creativity and innovation were often small and heterogeneous. Some scholars have even argued that research on leadership and employee creativity is still in an early stage and in need of further theorizing (Atwater & Carmeli, 2009; Mumford et al., 2002; Tierney, 2008).

We propose that our understanding of the leadership-creativity relation can be enhanced by specifying which goals leaders set and which approaches they prefer to reach these goals (see also Mumford et al., 2002; Rosing et al., 2011). Indeed, most leadership theories leave these goals and approaches unspecified. For example, theories on transformational and charismatic leadership emphasize motivating employees through a shared and inspiring vision but leave unspecified what goals a vision entails: a motivational vision on a safe work environment may provide specific security and safety goals that inhibit rather than stimulate creative risk-taking, whereas a vision that emphasizes change and growth may stimulate employee

creativity. Similarly, transactional leaders can reward employees for avoiding errors and following rules and regulations, but also for doing things differently and creatively. Specifying these different leadership foci or goals may provide new insights into how leadership affects employee creativity. Because this goal focus is captured within regulatory focus theory, a promising construct to advance understanding of the role of leader behavior in employee creativity is leader regulatory focus (LRF).

Drawing from regulatory focus theory (Higgins, 1997) and from Kark and Van Dijk's (2007) conceptual framework on the role of regulatory focus in leadership processes, recent research has identified two different regulatory foci that leaders can adopt in their leadership behavior: a promotion and a prevention focus (see Sue-Chan et al., 2012; Wu et al., 2008). Promotion-focused leadership guides employees to pursue maximal goals (gains, advancement, ideals), whereas prevention-focused leadership guides employees to pursue minimal goals (non-losses, security, oughts). We propose that employees' perception of promotion-focused leader behavior intrinsically motivates them to use an exploratory processing style, resulting in higher creativity. Alternatively, perceptions of prevention-focused leader behavior raise employees' vigilance to avoid losses and failures, which lead them to conform to the supervisor's direction and stay away from self-initiated creative courses of action (also see Wu et al., 2008).

While in recent years some studies have set to (empirically) examine LRF (e.g., Sue-Chan et al., 2012) and its relationship with creativity (e.g., Wu et al., 2008), existing research is still scarce. Therefore, progress can be made by further examining three basic questions: *what* is LRF (conceptualization) and how it differs from other leadership styles, *whether* LRF is related to employee creativity and can be a

predictor of creativity over and above some well-established leadership constructs, and *why* is LRF related to employee creativity (explanatory processes). More specifically, the present study makes three unique contributions. First, we define and conceptualize LRF as leadership behavior through which leaders align employees to appropriate goals (i.e., promotion versus prevention goals) and strategies (i.e., eagerness versus vigilance) to attain those goals. Based on this conceptualization, we delineate how leader promotion focus induces employees to engage in creative courses of action, whereas leader prevention focus stifles employee creativity. Second, we argue and empirically show that goal-directed leadership in the form of LRF is distinct from other leadership styles and can predict employee creativity over and above four well-established leadership styles (consideration, initiating structure, and transformational and contingent reward leadership). Finally, we examine two explanatory mechanisms in the relationship between LRF and creativity: employees' intrinsic motivation for creativity and conformity to supervisor. We argue for differential mediation, and propose that the effects of leader promotion focus are mediated by intrinsic motivation for creativity, whereas the effects of leader prevention focus are mediated by conformity to supervisor. Thus, we contribute to the further definition and conceptualization of LRF, give evidence for incremental validity of LRF above and beyond other leadership styles, and identify explanatory mechanism to advance theoretical and empirical understanding of the LRF-employee creativity relation. To empirically test our predictions, we collected multi-source two-wave longitudinal data among employees and their supervisors from various companies in the Netherlands.

THEORY AND HYPOTHESES

What is leader regulatory focus?

As defined by Yukl (2010: 26), "Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it". According to this definition, leaders influence employees by setting the goals that followers are expected to pursue (i.e., 'what to do'), and by inducing the motivation and behaviors in followers that are critical to attaining these goals (i.e., 'how to do it'; Yukl, 2010). Regulatory focus theory may be helpful in conceptualizing how leaders align employees to appropriate goals.

Within regulatory focus theory, there are two basic and orthogonal self-regulation systems: promotion and prevention focus (Higgins, 1997, 1998). While both foci concentrate on desired end-states and both may be functional in different situations, they fundamentally differ in the type of goals they are concerned with and the consequences they have for individuals' affect, cognitions, motivations, and behaviors. A promotion focus is concerned with maximal goals (gains, advancement, and ideals), whereas a prevention focus is concerned with minimal goals (non-losses, security, and oughts). The pursuit of these different goals is associated with different preferences for motivational and behavioral strategies for goal attainment. Individuals with a promotion focus are eager to use all strategies that allow them to approach matches to their maximal goals. In contrast, individuals who primarily act from a prevention focus are vigilant to only use those strategies that allow them to avoid mismatches to their minimal goals (Brendl & Higgins, 1996; Higgins, 1997, 2000; Liberman, Idson, Camacho, & Higgins, 1999; Van Dijk & Kluger, 2011).

In recent years, research has proposed that leaders may adopt a regulatory promotion or prevention focus in leading followers (Kark & Van Dijk, 2007; Sue-

Chan et al., 2012; Wu et al., 2008). Promotion-focused leadership highlights maximal goals (i.e., gains, advancement, and ideals) that guide employees to pursue their hopes, wishes, and aspirations. Eagerness is the most important strategy in this pursuit of maximal goals, implying that employees should take every opportunity that allows them to progress to a better state. In contrast, prevention-focused leadership highlights minimal goals (i.e., non-losses, security, and oughts) that guide employees to fulfill their duties, obligations, and responsibilities. In this pursuit of minimal goals, vigilance is the most important strategy, which implies that employees should avoid any actions that may potentially change the situation for the worse.

Extending this line of research, we conceptualize LRF as leadership behavior that aligns followers with promotion-focused (gains, advancement, ideals) or prevention-focused goals (non-losses, security, oughts) and the appropriate behavioral inclinations (eagerness versus vigilance) to achieve these goals. This conceptualization has three core features. First, regulatory focus has been studied primarily from a self-regulation and intrapersonal perspective (for overviews, see Gorman, Meriac, Overstreet, Apodaca, McIntyre, Park, & Godbey, 2012; Lanaj, Chang, & Johnson, 2012). In contrast, we follow and contribute to an emerging line of research exploring the interpersonal meaning and effects of regulatory focus (e.g., Kark & Van Dijk, 2007; Righetti, Finkenauer, & Rusbult, 2011; Sue-Chan et al., 2012; Wu et al., 2008). Second, we take a behavioral approach to LRF and differentiate two distinct foci in leadership behaviors. We propose that employees use the behavior of their leaders to infer what is expected of them, and through their behaviors leaders direct and guide employees by focusing on, setting, and communicating promotion or prevention goals (Kark & Van Dijk, 2007; Sue-Chan et al., 2012; Wu et al., 2008). Third, in addition to emphasizing different goals (i.e., the

'what to do'), LRF also induces certain strategic behavioral inclinations for goal attainment (i.e., the 'how to do it'). In particular, leader promotion focus associates with eagerness, a motivation to act differently and to take risks, and an inclination to use all possible strategies to attain maximal goals. In contrast, leader prevention focus is linked to vigilance, a motivation to conform and avoid risks, and to carefully avoid strategies that may cause a deterioration of the situation (see also Brockner & Higgins, 2001; Crowe & Higgins, 1997; Kark & Van Dijk, 2007; Liberman et al., 1999; Wu et al., 2008).[1]

Leader regulatory focus and employee creativity

When leaders show promotion-focused leadership behavior, they motivate employees to pursue gains, advancement, and ideals. Thus, leader promotion focus creates alignment around maximal goals and strategies for moving forward and approaching matches to desired (maximal) end-states. As a result, employees will be eager to progress to a better state, and will try to do so by using an explorative, risky processing style, and by pursuing new directions in their work (Kark & Van Dijk, 2007; Wu et al., 2008). In their eager pursuit of maximal goals, employees will not restrict themselves to commonly held beliefs, views and habitual thoughts, but explore diverging ways of obtaining desired ends. Thus, employees will generate novel and useful ideas in their search for progression, and therefore show creative performance when experiencing a leader promotion focus.

[1] Our approach to LRF differs from that of Kark and Van Dijk (2007). They conceptualize LRF as a chronic leader trait or a situationally induced leader psychological state, and theorize how leaders' trait or state regulatory focus will influence their leadership behaviors (e.g., charismatic/transformational versus monitoring/transactional behaviors). We, in contrast, conceptualize LRF as leadership behavior by which leaders directly influence followers to pursue promotion or prevention goals.

In contrast, when supervisors show prevention-focused leadership behavior, they motivate employees to secure non-losses, achieve security and stability, and fulfill oughts. For employees, it is thus important to maintain the status quo and avoid deterioration of the situation. Leader prevention focus, therefore, aligns employees around minimal goals and vigilant strategies for avoiding mismatches to desired (minimal) end-states. Employees are hereby driven by their duties, responsibilities, and obligations. Hence, they will avoid risks, will have a more repetitive conservative processing style, are attentive to detail, and are more likely to work correctly rather than differently (Kark & Van Dijk, 2007; Wu et al., 2008). When faced with prevention-focused leadership, employees will conservatively stay away from creative courses of action to avoid potentially negative changes to the status quo. Thus, we argue that as a result of a leader prevention focus, employees tend to show low levels of creativity.

Empirical evidence for the influence of LRF on employee creativity, however, is limited. To the best of our knowledge, only one study (Wu et al., 2008) has empirically examined the relationship between LRF and creativity. Wu and colleagues (2008) found in their cross-sectional field study that a perceived leader promotion focus was positively related to employee creativity, whereas a perceived leader prevention focus was unrelated to creativity[2]. Given the scarcity of evidence and the arguments put forward above, our first hypotheses are:

Hypothesis 1a: Leader promotion focus is positively related to employee creativity.

[2] We believe that this null-finding of the relationship between leader prevention focus and employee creativity may be due to Wu et al.'s (2008) sample and operationalization of leader prevention focus. We return to this in the Discussion section.

Hypothesis 1b: Leader prevention focus is negatively related to employee creativity.

Incremental validity of leader regulatory focus

Because LRF provides employees with clear (promotion or prevention) goals and clear strategies to achieve these goals (eagerness or vigilance), we expect that LRF will predict employee creativity over and above the effects of other leadership constructs that lack these clear goal foci. We therefore assess whether LRF has incremental predictive validity over and above four well-established leadership styles that have dominated leadership research: consideration and initiating structure (from the Ohio State Leadership Studies; see Judge, Piccolo, & Ilies, 2004; Stogdill, 1950, 1963) and transformational and contingent reward[3] leadership (from the full-range leadership theory; Avolio & Bass, 1991).

Consideration is about leaders' concern for and support of their employees, whereas initiating structure is about leaders defining and structuring roles and tasks towards goal attainment (Fleishman, 1973; Fleishman & Peters, 1962; Judge et al., 2004; Schurer Lambert, Tepper, Carr, Holt, & Barelka, 2012). Although consideration promotes interpersonal trust that may facilitate employees to engage in risky creative acts (Jo, Lee, Lee, & Hahn, 2015), it lacks a clear driver towards creativity: looking after employees does not imply that leaders expect employees to become creative or that they value such behavior. Likewise, a clear task structure and low role ambiguity may free up resources to be creative at work (Ohly, Sonnentag, & Pluntke, 2006), but high initiating structure leadership may also result in employees who mainly follow

[3] We focus on the contingent reward leadership dimension of transactional leadership, as it is the most effective dimension and most influential predictor of work outcomes (Judge & Piccolo, 2004).

rules and regulations and refrain from creative courses of action in favor of habitual behaviors (Ford, 1996).

Transformational leadership is about how leaders influence their employees to surpass self-interest for a higher collective purpose so that outstanding, extraordinary performance can be achieved (Antonakis et al., 2003; Bass, 1985; Judge & Piccolo, 2004). Because transformational leadership involves an inspiring vision and intellectual stimulation of employees, it has been linked to employee creativity (e.g., Gong et al., 2009; Gumusluoglu & Ilsev, 2009; Shin & Zhou, 2003). However, meta-analytic results have shown that the relation between transformational leadership and employee creativity is relatively weak and inconsistent (see Rosing et al., 2011). A possible reason for this is that an inspiring collective vision and the establishment of goals and norms for growth and development might empower followers to think independently and behave creatively, but may also foster dependency and conformity when a vision is transformed into explicit leader-centered goals and norms that followers are expected to strictly follow (Kark, Shamir, & Chen, 2003; Rosing et al., 2011). Finally, contingent reward leadership is about providing employees with rewards when roles are adequately fulfilled and goals achieved (Antonakis et al., 2003). As such, supervisors may reward employees for avoiding errors and strictly following protocols, which we expect to negatively relate to creativity. However, in other work contexts, supervisors may set creativity goals and reward employees for doing things differently.

Concluding, we propose that the goals that leaders set are left unspecified within the aforementioned leadership styles. LRF, on the other hand, clearly specifies which promotion or prevention goals there are to be achieved, and the motivational strategies by which these goals should be attained. We therefore propose that goal-

directed LRF will have an effect on employee creativity over and above the effects of these other leadership constructs:

Hypothesis 2: The positive (negative) relationship between leader promotion (prevention) focus and employee creativity holds over and above the effects of consideration, initiating structure, transformational and contingent reward leadership.

The mediating roles of intrinsic motivation for creativity and conformity to supervisor

We also examine two explanatory mechanisms that potentially explain the LRF-employee creativity relation: intrinsic motivation for creativity and conformity to supervisor. We expect differential processes for leader promotion and prevention focus. Specifically, we propose that intrinsic motivation for creativity will only mediate the positive relationship between leader promotion focus and employee creativity, whereas conformity to supervisor will only mediate the negative relationship between leader prevention focus and creativity.

Intrinsic motivation has been defined as "the motivation to engage in work primarily for its own sake, because the work itself is interesting, engaging, or in some way satisfying" (Amabile, Hill, Hennessey, & Tighe, 1994: 950). Intrinsic motivation for creativity is specifically about the motivation to perform creative work or activities, such as creative thinking and generating new ideas (Tierney, Farmer, & Graen, 1999). Research has argued that intrinsic motivation can be shaped or altered by the social context (Amabile, 1988; Ryan & Deci, 2000). Building on self-determination theory (SDT; Ryan & Deci, 2000), we propose that leadership in the form of leader promotion focus may enhance intrinsic motivation for creativity. According to SDT, self-direction is important for intrinsic motivation, because it

satisfies the basic human need for autonomy (or "internal perceived locus of causality"; Ryan & Deci, 2000: 70). One of the key characteristics of promotion-focused leadership is that it motivates employees to be inspired by their ideals (maximal goals), and pursue their hopes, wishes, and aspirations (Kark & Van Dijk, 2007; Sue-Chan et al., 2012; Wu et al., 2008). These ideals represent internal or intrinsic needs, and employees are thus likely to perceive an internal locus of causality when they are pursuing those ideal outcomes. Given that employees eagerly pursue innate needs, employees feel high levels of self-determination, which according to SDT, is one of the hallmarks of intrinsic or self-motivation (Amabile et al., 1994; Ryan & Deci, 2000). Thus, we expect that leader promotion focus positively relates to intrinsic motivation for creativity.

Intrinsic motivation (for creativity) has often been linked to employee creativity, and intrinsic motivation has even been labeled as "the prototypic manifestation of the human tendency toward learning and creativity" (Ryan & Deci, 2000: 69). Amabile (1988) argued that intrinsic motivation may be the most important predictor of creativity, because it is important for initiating the creative process and for sustaining creative efforts over longer periods of time. Further, individuals scoring high (as opposed to low) on intrinsic task motivation are more likely to consider multiple alternatives and incorporate different viewpoints in their work, which are both conducive to creative solutions. Amabile (1988) indeed showed that intrinsic motivation is one of the strongest promoters of creativity, whereas lack of it is likely to inhibit creativity. Tierney and colleagues (1999) specifically examined intrinsic motivation for creativity, and proposed that intrinsic motivation for creativity gives the necessary level of enthusiasm for creative activities. Both Tierney and colleagues (1999) and Jaussi and Dionne (2003) found direct evidence for the positive

relationship between intrinsic motivation for creativity and actual creative behaviors. Concluding, we expect that leader promotion focus will positively relate to intrinsic motivation for creativity, which then results in higher levels of creativity.

Hypothesis 3a: Intrinsic motivation for creativity mediates the positive relationship between leader promotion focus and employee creativity.

We expect leader prevention focus to be unrelated to intrinsic motivation for creativity. Leader prevention focus is concerned with minimal goals and avoiding negative outcomes, which is not inherently an enjoyable task as it may induce negative moods or emotions (e.g., fear or anxiety to fail; see also Kark & Van Dijk, 2007). Moreover, prevention-focused leadership highlights the importance of duties and responsibilities, which are generally placed on individuals by others (e.g., the leader or the organization; see also Kark & Van Dijk, 2007; Sue-Chan et al., 2012). While these external regulations might be internalized to some extent, they are not part of the self. Hence, these external obligations and social pressures do not trigger a sense of self-determination, which is essential for intrinsic motivation to arise.

Rather, we expect that conformity to supervisor is a crucial mediator of the leader prevention focus-employee creativity relation. Conformity to supervisor implies that employees alter their opinions, beliefs, and behaviors to align them with those of their supervisor (e.g., adopt or closely follow the ideas and suggestions of the leader; see Cialdini & Goldstein, 2004; Cialdini & Trost, 1998). Although the relation between leader prevention focus and follower conformity has not been studied, for several reasons we expect leader prevention focus to be positively related to conformity to supervisor. First, by conforming to the thoughts of the supervisor, the chances on failure, loss, and (negative) changes to the status quo are minimized (which is the principle behind leader prevention focus). Second, Kark and Van Dijk

(2007) argued that prevention-focused leadership is related to leaders' value of conservation, which includes valuing conformity to the current state of affairs. Third, Wu and colleagues (2008) proposed that employees seek approval of the prevention-focused supervisor, and we argue that a viable way to get approval is by conforming. Finally, Sue-Chan and colleagues (2012) argued that when employees experience a coach prevention focus they are more attentive to the coach, and such attentiveness implies that employees closely follow the suggestions and ideas of the supervisor.

With few exceptions (e.g., Goncalo & Duguid, 2012), conformity has often been found to be detrimental to individual creativity. For example, conformers have less motivation towards creative problem solving and lack spontaneity and pro-active initiative (Allen & Levine, 1968). Moreover, conformity may reduce individuals' ability to acquire new knowledge and examine alternative possibilities (Woodman et al., 1993). Indeed, individuals' disposition towards conformity is more likely to result in routine performance and incremental adjustments than in radical creativity (Madjar et al., 2011). Concluding, we expect that leader prevention focus is likely to enhance employees' conformity to their supervisor, subsequently resulting in less creativity.

Hypothesis 3b: Conformity to supervisor mediates the negative relationship between leader prevention focus and employee creativity.

We expect that leader promotion focus will not affect conformity. A key characteristic of employees experiencing a leader promotion focus is that they are eager to pursue all means to attain their goals. In this eager pursuit of promotion goals, employees may use the ideas and suggestions of the supervisor, but they do not limit themselves to this one viewpoint and rather examine and draw on multiple perspectives. Thus, we expect that leader promotion focus will not significantly relate to employees' conformity to their supervisor.

METHODS

Sample and procedure

To test our hypotheses, we collected two-wave longitudinal data from employees and supervisors within different companies in the Netherlands. After supervisors agreed to participate in our research, they provided us with contact details of themselves and their subordinates. To limit their work and to increase accuracy, supervisors were allowed to list and rate a maximum of 10 subordinates. To avoid a selection bias, supervisors with more than 10 subordinates listed their first 10 employees according to alphabetic order. Using Qualtrics online software, the first wave of data (T1) was collected in March/April 2014, whereas the second wave (T2) was collected in June/July 2014. Per wave, we sent an invitation email, followed by two or three reminders to those respondents that had not yet completed the questionnaire. For the purpose of this study, we used employee perceptions of LRF and the other leadership constructs from T1, and measures of the mediators intrinsic motivation for creativity and conformity to supervisor from T2. Supervisor ratings of employee creativity were obtained at T2.

At T1, we approached all employees and supervisors for whom we received contact details, whereas at T2 we only approached those employees and supervisors that had participated at T1. We did not contact respondents again who explicitly indicated they were not able or willing to participate. In the first wave, we contacted 916 employees together with their 125 supervisors. A total of 645 employees (70.41%) and 106 supervisors (84.80%) completed their first questionnaire. In the second wave, 564 employees and 105 supervisors received an invitation to participate, and 449 employees (79.61%) and 85 supervisors (80.95%) completed their second questionnaire. After data collection, we had 596 usable employee-respondents at T1,

of which we were able to match 414 with their creativity ratings at T2 (provided by 82 direct supervisors). These 414 respondents worked in 54 different companies, operating in a wide variety of fields such as consulting, logistics, banking, health-care, and education. We used this sample (sample A) to test Hypotheses 1a, 1b, and 2.

Of these 414 employees in sample A, 237 were male and 177 female, and average age was 42.88 years (*SD* = 11.11, *range* = 19 to 64). Average organizational tenure was 11.61 years (*SD* = 10.67, *range* = 0 to 42), and most employees held a lower (119) or higher college degree (203). Of the 82 supervisors, 59 were male and 23 female, average age was 47.86 years (*SD* = 7.80, *range* = 29 to 61; 1 missing), average organizational tenure was 15.41 years (*SD* = 10.30, *range* = 0 to 40), and most supervisors held a higher college (34) or university degree (32). On average, supervisors rated 5.05 employees (*SD* = 2.68), ranging between 1 and 10.

To test Hypotheses 3a and 3b, the sample (sample B) consisted of 312 employees who participated at T1 (leadership variables) and T2 (mediators), and had creativity ratings from T2 (provided by 71 supervisors, from 51 different companies). Of these 312 employees in sample B, 168 were male and 144 female, average age was 43.17 years (*SD* = 10.81, *range* = 21 to 64), average organizational tenure was 11.31 years (*SD* = 10.19, *range* = 0 to 41), and most employees held a lower (81) or higher college degree (166). Of the 71 supervisors, 49 were male and 22 female, average age was 47.94 years (*SD* = 8.13, *range* = 29 to 61; 1 missing), average organizational tenure was 14.68 years (*SD* = 10.11, *range* = 0 to 40), and most supervisors held a higher college (33) or university degree (31). On average, supervisors rated 4.39 employees (*SD* = 2.43), ranging between 1 and 10.

Measures

All scales were measured on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The questionnaires were in Dutch, and we translated the scales from English to Dutch using a back-translation procedure (Brislin, 1970). All scales were measured at the employee level, except for employee creativity that was supervisory rated.

Leader regulatory focus (T1). To measure leader regulatory focus, we used an adapted version of the regulatory focus scale of Wallace, Johnson, and Frazier (2009; see also Wallace & Chen, 2006). Both the leader promotion and leader prevention scales consisted of four items, and all items started with 'My supervisor motivates me to primarily focus on'. The four leader promotion focus items were (α = .88): 'achieving positive outcomes at work', 'achieving success at work', 'my aspirations and ideals when working', and 'fulfilling my work as successful as possible'. The four leader prevention focus items were (α = .77): 'avoiding negative outcomes at work', 'avoiding failure at work', 'my duties and responsibilities when working', and 'fulfilling my work as correct as possible'.

Other leadership constructs (T1). We measured consideration and initiating structure with those items from the LBDQ XII that had own Varimax factor loadings above .40 in Schriesheim and Stogdill (1975). Consideration was measured with six items (α = .88), and an example item was: 'My supervisor is friendly and approachable'. Initiating structure was measured with five items (α = .79), and an example item was: 'My supervisor maintains definite standards of performance'. Transformational leadership was measured using the seven-item Global Transformational Leadership (GTL) scale of Carless, Wearing, and Mann (2000; α = .90). Example items were: 'My supervisor communicates a clear and positive vision

of the future', and 'My supervisor gives encouragement and recognition to staff'. Contingent reward leadership, as part of transactional leadership, was measured using the four-item scale of Avolio, Bass, and Jung (1999; $\alpha = .86$). An example item was: 'My supervisor rewards my achievement'.

Mediators (T2). Intrinsic motivation for creativity was measured with the five-item scale of Tierney and colleagues (1999; $\alpha = .70$), and an example item was: 'I enjoy finding solutions to complex problems'. We measured conformity to supervisor using a seven-item scale that was based on the conformity scale of Mehrabian and Stefl (1995; $\alpha = .71$). Items were: 'In my work, I often rely on, and act upon, the advice of my supervisor', 'Generally, I'd rather give in and go along with my supervisor for the sake of peace than struggle to have my way', 'I tend to follow my supervisor in making decisions', 'Basically, my supervisor is the one who decides what we do together', 'My supervisor can easily influence and change my ideas', 'I tend to rely on my supervisor when I have to make an important decision quickly', and 'I prefer to make my own decisions at work rather than following my supervisor (reversed coded)'.

Creativity (T2). Employee creativity was measured using the nine-item supervisory rating scale of Tierney and colleagues (1999; $\alpha = .93$). Supervisor ratings of employee creativity have often been used in previous research (e.g., George & Zhou, 2001; Oldham & Cummings, 1996). Example items were: '[Name employee] demonstrated originality in his/her work' and '[Name employee] generated novel, but operable work-related ideas'.

Selective attrition

We analyzed whether demographics (T1), leadership constructs (T1) and creativity ratings (T2) differed between respondents who dropped out and those

respondents who were part of our analyses. There are two reasons for attrition in our analyses. First, some employees participating at T1 did not have creativity ratings at T2 (because the supervisor did not participate) and were therefore not part of sample A. Therefore, we compared those employees who participated at T1 but dropped out because of lacking creativity ratings ($N = 182$) with those in sample A. Results showed that employees who were not part of sample A experienced lower consideration ($M = 3.88$, $SD = .66$) and transformational leadership ($M = 3.65$, $SD = .79$) than employees who were part of sample A ($M = 4.00$, $SD = .67$; $t = 2.15$, $p \leq .05$ and $M = 3.82$, $SD = .69$; $t = 2.65$, $p \leq .01$, respectively).

The second reason for dropout is that employees that are part of sample A did not participate at T2; for these employees we have no data about the mediators and they are not part of sample B. Thus, we compared employees in sample A who dropped out with those in sample B. Results showed that there were more male ($M = 1.32$, $SD = .47$) and lower educated ($M = 1.51$, $SD = .50$) employees among dropouts than in sample B ($M = 1.46$, $SD = .50$; $t = 2.46$, $p \leq .05$ and $M = 1.69$, $SD = .47$; $t = 3.25$, $p \leq .001$, respectively). Moreover, dropouts experienced a higher leader prevention focus ($M = 3.66$, $SD = .75$), compared to employees in sample B ($M = 3.46$, $SD = .64$; $t = 2.63$, $p \leq .01$). These differences are (most likely) due to the fact that six blue-collar production teams from one organization, mostly consisting of lower educated males, only participated at T1. These teams worked in a food producing company, in which safety procedures are important, which may be the reason that their perceptions of leader prevention focus were higher. Concluding, our results are somewhat biased towards higher educated employees, and these employees experienced lower prevention-focused leadership and higher consideration and

transformational leadership. No other differences between dropouts and employees that are part of our samples were found.

Convergent and divergent validity

To examine our measurement model and to establish convergent and divergent validities of our LRF measures, we estimated various measurement models using Mplus 7.11 (Muthén & Muthén, 1998-2012). We compared measurement models by means of χ^2-differences, and we assessed model fit using the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Standardized Root Mean Square Residual (SRMR). We examined measurement models with our main study variables (i.e., LRF, mediators, and creativity). We additionally examined models to assess the convergent and divergent validity of LRF in relation to the four well-established leadership constructs, to examine whether LRF is distinct from other leadership constructs. In the baseline models, we correlated the constructs as first-order factors with all items loading on their own factors without cross-loadings. Results are shown in Table 2.1.

As can be seen in upper part of Table 2.1, the baseline model with our main study variables on separate factors provided an acceptable fit to the data (χ^2[367] = 872.03; RMSEA = .07 [90%: .06 to .07]; CFI = .87; TLI =.86; SRMR = .08), although CFI and TLI values are somewhat low. Alternative models had a worse fit to the data than the baseline model, showing that the focal constructs are empirically distinct.

Moreover, as can be seen in the lower part of Table 2.1, the results also showed that LRF is indeed a distinct leadership construct. The baseline model with all leadership constructs on separate factors had a better fit with the data (χ^2[390] =

TABLE 2.1

Confirmatory factor analyses

Factor structure	χ^2	df	RMSEA (90% CI)	CFI	TLI	SRMR	$\Delta\chi^2(\Delta df)$
Baseline model with main study variables: five factors	872.03	367	.07 (.06-.07)	.87	.86	.08	
Model 1: four factors	1139.63	371	.08 (.08-.09)	.80	.78	.08	267.60(4)***
Model 2: four factors	1128.67	371	.08 (.08-.09)	.81	.79	.11	256.64(4)***
Baseline model with leadership variables: six factors	1047.69	390	.07 (.07-.08)	.87	.86	.09	
Model 1: five factors	1240.78	395	.08 (.08-.09)	.84	.82	.09	193.09(5)***
Model 2: five factors	1208.17	395	.08 (.08-.09)	.84	.83	.08	160.48(5)***
Model 3: five factors	1275.83	395	.09 (.08-.09)	.83	.83	.09	228.14(5)***
Model 4: five factors	1349.35	395	.09 (.08-.09)	.82	.80	.09	301.66(5)***

Notes. $N = 312$. $\Delta\chi^2$ and Δdf refer to the differences with the baseline model. Main study variables are: leader promotion focus (T1), leader prevention focus (T1), intrinsic motivation for creativity (T2), conformity to supervisor (T2), and creativity (T2). Changes relative to baseline model with main study variables: Model 1: leader promotion focus and leader prevention focus on one factor; Model 2: intrinsic motivation for creativity and conformity to supervisor on one factor. Leadership variables are: leader promotion focus, leader prevention focus, consideration, initiating structure, transformational leadership, and contingent reward leadership (all T1). Changes relative to baseline model with leadership variables: Model 1: leader promotion focus and transformational leadership on one factor; Model 2: leader prevention focus and initiating structure on one factor; Model 3: leader promotion focus and contingent reward leadership on one factor; Model 4: leader prevention focus and contingent reward leadership on one factor. *** $p \leq .001$

1047.69; RMSEA = .07 [90%: .07 to .08]; CFI = .87; TLI =.86; SRMR = .09), than other models. Again, however, CFI and TLI values are somewhat low[4].

Analytic approach

Before running the analyses, we examined the multilevel structure of the data: employees are nested within supervisors, and supervisors are nested within companies. This suggests a multilevel model with random intercepts for a second (i.e., supervisor) and third (i.e., company) level. However, we came to the conclusion that specifying a third level would not be appropriate. While there are enough employees per supervisor (M = 5.05, SD = 2.68 in sample A; M = 4.39, SD = 2.43 in sample B), there are not enough supervisors per company (M = 1.52, SD = 2.22 in sample A; M = 1.39, SD = 1.58 in sample B), and from most companies (89% in sample A and 88% in sample B) only one supervisor participated. This implies that supervisor-level variation is hard to be distinguished from company-level variation (Hox, 2002; Snijders & Bosker, 1999). Therefore, we decided not to nest within companies, but only nest employees within supervisors. We then estimated intra-class correlations on supervisor-level, and results showed there was significant variance between supervisors in terms of creativity T2 (ICC = .29, $p \leq .001$), intrinsic

[4] We examined whether correlating error terms would improve model fit of the two baseline models. Results showed that correlating the error terms of two leader leader prevention focus items increased model fit for both the baseline model with main study variables (χ^2[366] = 739.83; RMSEA = .06 [90%: .05 to .06]; CFI = .90; TLI =.89; SRMR = .07) and the baseine model with leadership variables (χ^2[389] = 890.36; RMSEA = .06 [90%: .06 to .07]; CFI = .90; TLI =.89; SRMR = .07). Sharing the same stem 'My supervisor motivates me to primarily focus on', these two items are 'avoiding negative outcomes at work' and 'avoiding failure at work'.

motivation for creativity T2 (*ICC* = .07, $p \leq .001$), and conformity to supervisor T2 (*ICC* = .05, $p \leq .001$).

RESULTS

Descriptive statistics and intercorrelations

Table 2.2 displays the means, standard deviations, and zero-order intercorrelations among all study variables. As expected, leader promotion focus (T1) was positively related to creativity (T2) ($r = .23$, $p \leq .001$) and to intrinsic motivation for creativity (T2) ($r = .27$, $p \leq .001$), and not significantly to conformity to supervisor (T2) ($r = .07$). Unexpectedly, leader prevention focus (T1) was not significantly related to creativity (T2) ($r = -.05$), but was positively related to conformity to supervisor (T2) ($r = .14$, $p \leq .01$) and not significantly related to intrinsic motivation for creativity (T2) ($r = .08$). In line with our reasoning, intrinsic motivation for creativity (T2) was positively related to creativity (T2) ($r = .27$, $p \leq .001$), whereas conformity to supervisor (T2) was negatively related to creativity (T2) ($r = -.14$, $p \leq .05$). Intrinsic motivation for creativity and conformity to supervisor were marginally significantly correlated with each other ($r = -.09$, $p \leq .10$). Moreover, results showed that all leadership variables (T1) including LRF were positively related to each other, with correlations ranging between .18 and .82 (all $p \leq .001$). Of the four well-established leadership constructs (T1), all but initiating structure were positively related to creativity (T2) ($r = .17$ to $.23$, $p \leq .001$).

Control variables

In our analyses, we decided to include employee gender, age, educational level, and work experience in the current organization. We believe that inclusion of these control variables is justified for two reasons. First, previous research has shown that these variables may be related to creativity. Gender (e.g., Baer & Kaufman,

TABLE 2.2

Descriptive statistics and intercorrelations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender (1 = male, 2 = female)	1.43	.50	-												
2. Age (in years)	42.88	11.11	-.05	-											
3. Education level (1 = low, 2 = high)	1.64	.48	.05	-.22***	-										
4. Organizational tenure (in years)	11.61	10.67	-.09†	.61***	-.25***	-									
5. Leader promotion focus (T1)	3.91	.68	.18***	-.04	-.04	-.07	(.88)								
6. Leader prevention focus (T1)	3.51	.68	-.02	.05	-.25***	.09†	.35***	(.77)							
7. Consideration (T1)	4.00	.67	.14**	-.01	.03	-.05	.64***	.18***	(.88)						
8. Initiating structure (T1)	3.63	.65	.05	.07	-.16***	.09†	.42***	.51***	.35***	(.79)					
9. Transformational leadership (T1)	3.82	.69	.18***	.01	.01	-.04	.70***	.21***	.82***	.39***	(.90)				
10. Contingent reward leadership (T1)	3.57	.80	.03	-.02	-.05	-.04	.59***	.26***	.61***	.46***	.66***	(.86)			
11. Intrinsic motivation for creativity (T2)	3.68	.57	-.07	-.03	.03	-.10†	.27***	.08	.23***	.10†	.22***	.27***	(.70)		
12. Conformity to supervisor (T2)	3.08	.50	.07	-.18**	-.06	-.14*	.07	.14**	.01	.13*	.07	.06	-.09†	(.71)	
13. Creativity (T2)	3.24	.74	-.01	-.12*	.09†	-.06	.23***	-.05	.17***	.06	.18***	.23***	.27***	-.14*	(.93)

Notes. $N = 414$ for all correlations, except for those with intrinsic motivation for creativity and conformity to supervisor, where $N = 312$. Cronbach's Alphas between parentheses on the diagonal. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

2008), age (e.g., Ruth & Birren, 1985), education level (e.g., Fasko, 2000), and work experience (e.g., Zhang & Bartol, 2010a) may all be important to consider when examining employee creativity. Second, the correlation table (Table 2.2) shows that these variables are all correlated with one or more of the study variables, which justifies including them as control variables (see Becker, 2005). The conclusions remained unaltered when some or all of the above stated control variables were excluded from our analyses.

Hypotheses testing

We tested our hypotheses using Mplus 7.11 statistical software (Muthén & Muthén, 1998-2012). Estimates for the direct effects of LRF and the other leadership constructs on creativity are reported in Table 2.3. In all models, we controlled for the above stated control variables. In the first model, using sample A, we tested Hypotheses 1a and 1b by regressing creativity (T2) on leader promotion and prevention focus (T1). Supporting Hypothesis 1a, results showed that leader promotion focus had a significant positive relationship with creativity ($B = .25$, $p \leq .001$). Results also supported Hypothesis 1b, as leader prevention focus had a significant negative relationship with creativity ($B = -.13$, $p \leq .01$).

To test Hypothesis 2, again using sample A, we ran the same analyses, but now also included consideration and initiating structure (model 2) and transformational and contingent reward leadership (model 3). As the second model shows, the relationship of leader promotion ($B = .23$, $p \leq .01$) and prevention focus ($B = -.11$, $p \leq .05$) with creativity remained significant when controlling for consideration and initiating structure, whereas the effects of consideration ($B = .05$) and initiating structure ($B = -.07$) on creativity both were non-significant. As can be seen in the third model, the relationships of leader promotion ($B = .20$, $p \leq .05$) and

prevention focus (B = -.14, $p \leq .01$) with creativity were still significant when controlling for transformational and contingent reward leadership. While transformational leadership did not significantly predict creativity (B = -.08), the relationship between contingent reward leadership and creativity was significant (B = .17, $p \leq .05$). Thus, we find that leader regulatory focus predicts creativity over and above some well-established leadership constructs, giving evidence for the incremental validity of LRF[5]. These results support Hypothesis 2.

TABLE 2.3

Unstandardized regression coefficients for direct effects on creativity (T2)

Variable	Model 1 (Hypothesis 1)	Model 2 (Hypothesis 2)	Model 3 (Hypothesis 2)
Constant	3.19*** (.34)	3.12*** (.36)	3.23*** (.39)
Gender (1 = male, 2 = female)	-.20*** (.06)	-.20** (.06)	-.21*** (.06)
Age (in years)	-.01** (.00)	-.01** (.00)	-.01** (.00)
Education level (1 = low, 2 = high)	.13† (.08)	.14† (.07)	.12 (.08)
Organizational tenure (in years)	.00 (.00)	.00 (.00)	.00 (.00)
Leader promotion focus (T1)	.25*** (.04)	.23** (.08)	.20* (.09)
Leader prevention focus (T1)	-.13** (.05)	-.11* (.05)	-.14** (.05)
Consideration (T1)		.05 (.07)	
Initiating structure (T1)		-.07 (.08)	
Transformational leadership (T1)			-.08 (.09)
Contingent reward leadership (T1)			.17* (.07)
R^2	.12*** (.03)	.13*** (.03)	.15*** (.03)

Notes. N = 414. Standard errors between parentheses. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

We used sample B to test our mediation Hypotheses 3a and 3b (see Table 2.4 and Figure 2.1). To test the indirect effects, we examined the complete model with

[5] We additionally ran a model in which all leadership constructs were included. Results showed that the effects of leader promotion (B = .19, $p \leq .05$) and prevention (B = -.10, $p \leq .05$) focus on creativity were significant. We found a positive relationship between contingent reward leadership and creativity (B = .19, $p \leq .01$). However, given the high correlations between the leadership constructs and thereby possible problems with multicollinearity, we feel that these results should be interpreted with care.

both mediators simultaneously. We first regressed the mediators (T2) on LRF (T1), and thereafter regressed creativity (T2) on the mediators (T2) and LRF (T1).

To test Hypothesis 3a, we first regressed intrinsic motivation for creativity (T2) on leader promotion and prevention focus (T1). As expected, results showed that only leader promotion focus had a significant positive relationship with intrinsic motivation for creativity ($B = .25$, $p \leq .001$). With regard to Hypothesis 3b, we regressed conformity to supervisor (T2) on leader promotion and prevention focus (T1). Only leader prevention focus had a significant positive relationship with conformity to supervisor ($B = .11$, $p \leq .01$).

Then (for both Hypotheses 3a and 3b) we regressed creativity (T2) on intrinsic motivation for creativity (T2), conformity to supervisor (T2), and leader promotion and prevention focus (T1). Following expectations, results showed that the relationship between intrinsic motivation for creativity and creativity was positive and significant ($B = .22$, $p \leq .01$), but also that the relationship between leader promotion focus and creativity became weaker but remained significant ($B = .18$, $p \leq .001$). Results further showed that intrinsic motivation for creativity mediated the positive relation between leader promotion focus and creativity: *indirect effect* = 0.05 ($p \leq .05$). Hence, results supported Hypothesis 3a. Finally, results showed that the relationship between conformity to supervisor and creativity was negative and significant ($B = -.24$, $p \leq .01$), and that the relationship between leader prevention focus and creativity became insignificant ($B = -.04$) when controlling for the mediators. As hypothesized, conformity to supervisor indeed mediated the negative relation between leader prevention focus and creativity: *indirect effect* = -.03 ($p \leq .05$). Thus, results supported Hypothesis 3b. Given the lack of relation between leader promotion focus and conformity, conformity did not mediate the effect of leader

promotion focus on creativity (*indirect effect* = .00); similarly, because leader prevention focus was unrelated to intrinsic motivation for creativity, intrinsic motivation for creativity did not mediate the effect of leader prevention focus on creativity (*indirect effect* = .00). These results are fully in line with our differential mediation model.

TABLE 2.4

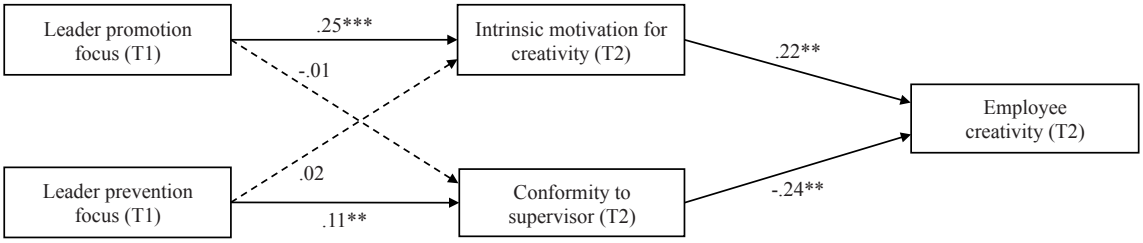
Unstandardized regression coefficients for direct and indirect effects

	Direct effects		
	Dependent variable		
Variable	Intrinsic motivation for creativity (T2) (Hypothesis 3a)	Conformity to supervisor (T2) (Hypothesis 3b)	Creativity (T2) (Hypothesis 3a,b)
Constant	2.79*** (.33)	3.19*** (.31)	3.07*** (.40)
Gender (1 = male, 2 = female)	-.15** (.06)	.05 (.05)	-.12 (.08)
Age (in years)	.00 (.00)	-.01* (.00)	-.01* (.00)
Education level (1 = low, 2 = high)	.04 (.07)	-.10 (.07)	.02 (.08)
Organizational tenure (in years)	-.01 (.00)	-.00 (.00)	-.00 (.00)
Leader promotion focus (T1)	.25*** (.05)	-.01 (.05)	.18*** (.05)
Leader prevention focus (T1)	.02 (.06)	.11** (.04)	-.04 (.06)
Intrinsic motivation for creativity (T2)			.22** (.07)
Conformity to supervisor (T2)			-.24** (.09)
R^2	.10** (.03)	.07** (.03)	.16*** (.04)
Indirect effects			
Leader promotion focus (T1) → Intrinsic motivation for creativity (T2) → Creativity (T2)			.05* (.02)
Leader prevention focus (T1) → Conformity to supervisor (T2) → Creativity (T2)			-.03* (.01)

Notes. $N = 312$. Standard errors between parentheses. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

FIGURE 2.1

Differential mediation model



Notes. Unstandardized regression coefficients reported. Dotted lines are not significant. ** $p \leq .01$, *** $p \leq .001$.

DISCUSSION

Summary and discussion of results

In the present study, we examined the relationship between leader regulatory focus (LRF) and creativity. We proposed that existing leadership theories do not clearly specify the goals that leaders set for their employees, and that specifying these goals may shed more light on the leadership-employee creativity relation. In contrast to some well-established leadership constructs, LRF has clear promotion (gains, advancements, ideals) or prevention goals (non-losses, security, oughts) that employees are to pursue, and also specifies the eager or vigilant strategy by which employees should attain those goals. In line with our predictions, results showed that leader promotion (prevention) focus was positively (negatively) related to creativity, and that these effects were present over and above the effects of consideration, initiating structure, and transformational and contingent reward leadership. Moreover, we examined the processes underlying the relationship between LRF and creativity, and found that intrinsic motivation for creativity mediated the relationship between leader promotion focus and creativity, whereas leader prevention focus had an indirect relationship with creativity via conformity to supervisor. Thus, the present paper makes two clear contributions. First, we advanced current knowledge about whether and why LRF relates to creativity, and hereby add to the scarce literature and empirical findings regarding the effects of LRF on employee creativity. Second, we showed that LRF is a distinct leadership construct that can empirically be distinguished from other leadership constructs and that has incremental predictive validity.

While we find solid empirical evidence for our predictions, our results also raise some questions. First, our results complement the findings of Wu and colleagues

(2008). Like Wu et al. (2008), we found that leader promotion focus had a positive relationship with creativity. However, Wu et al. (2008) found that leader prevention focus was unrelated to employee creativity, whereas we found a negative relation. There may be several reasons for this inconsistency. First, our sample differed from that of Wu et al. (2008): we conducted our research within a Western-European culture (the Netherlands) where leader prevention focus may be relatively uncommon, whereas the study of Wu et al. (2008) was conducted among Chinese employees who tend to experience more prevention-focused leadership. Indeed, in our sample average leader promotion focus was higher than average leader prevention focus (see Table 2.2), whereas the reverse was true in Wu et al.'s sample. Hence, in our sample, prevention-focused leadership departs from the usual leadership style, and may therefore have stronger effects than in a sample in which leader prevention focus is more common. Second, our measurement of leader prevention focus differs substantially from the one used by Wu and colleagues (2008). We measured how leaders motivate employees to attain prevention focus goals, and our items refer to how leaders interact with their employees. In contrast, Wu et al.'s (2008) measure contains items that exclusively focus on how supervisors deal with upper-management, which is a much less direct way to measure leader prevention focus. As a consequence of this less direct measurement, relations with employee creativity may have been weaker.

Second, it is interesting that both transformational leadership and consideration had positive and significant zero-order correlations with employee creativity, but were unrelated to creativity in regressions controlling for LRF. We argued that leader promotion focus is positively related to creativity because it encourages employees to pursue internal needs (hopes, aspirations, ideals) resulting in

intrinsic motivation. Consideration and transformational leadership (e.g., by means of intellectual stimulation; Gong et al., 2009) might also stimulate employees' inherent needs, and, indeed, these leadership styles were also positively correlated to intrinsic motivation for creativity (see Table 2.2). One interpretation of these findings is that consideration, transformational leadership, and leader promotion focus are positively inter-correlated, and are all correlated with employee creativity, (partly) because of this shared emphasis on employee inner drives (hopes, ideals, aspirations). If this were the case, it appears that the encouragement to pursue inner drives is best captured with and explained by leader promotion focus, given that leader promotion focus had the strongest relation with employee creativity and intrinsic motivation. Put differently, it may be the case that transformational leadership and consideration have positive relations with employee creativity, precisely because these leadership styles often coincide with a leader promotion focus.

Finally, it is interesting to note that contingent reward leadership had a strong relation with creativity, even when controlling for LRF. This suggests that the mechanism underlying the effects of contingent rewards on creativity is different from that of other leadership constructs. Contingent rewards, for example, may not necessarily stimulate employees to satisfy internal drives (ideals, hopes, aspirations), because rewards provide a more extrinsic form of motivation. Rather, contingent rewards may stimulate effort, and lead employees to persist in their activities to reach (externally defined) goals. Previous research suggests, indeed, that external rewards, in particular when they are offered for creative achievement, can stimulate creativity among employees (e.g., Byron & Khazanchi, 2012; Eisenberger & Rhoades, 2001).

Theoretical and managerial implications

The current research has theoretical implications for the leadership, regulatory focus, and creativity literature. Starting with the leadership literature, the leadership-creativity link is relatively poorly understood and empirical results have been unclear and inconsistent (see Rosing et al., 2011). We suggested that many leadership theories do not specify which goals there are to be achieved and how these goals should be achieved, and proposed that LRF therefore has potential to complement the literature: it entails clear promotion focus goals that may stimulate creativity, and prevention focus goals that may inhibit it. Moreover, LRF also specifies the strategies that employees are to use to reach these goals: promotion focus goals should be eagerly pursued and employees should take every opportunity to progress, whereas prevention focus goals should lead employees to vigilantly use only those actions that do not negatively affect the status quo. Hereby, we further clarified how leadership may affect employee creativity.

Although LRF has been studied before (Sue-Chan et al., 2012; Wu et al., 2008), a good conceptualization of the construct was lacking. Based on Yukl's (2010) definition of leadership as involving goals and ways to attain goals, we moved back to the essence of leadership by introducing LRF as goal-focused leadership behavior. While Kark and Van Dijk (2007) were the first to theorize about the role of self-regulatory processes in leadership, we depart from their viewpoint by conceptualizing LRF as behavior that leaders use to directly influence their followers, rather than seeing it as a chronic leader trait or a situationally induced leader psychological state. We also add to leadership theory by theoretically arguing and empirically showing the incremental predictive validity of LRF. We found that LRF has an effect on creativity over and above the effects that four well-studied leadership constructs (i.e.,

consideration, initiating structure, transformational and contingent reward leadership) had on creativity. This increases the confidence that LRF is an important leadership behavior to consider when examining (extra-role) behaviors such as employee creativity.

Second, our research has theoretical implications for the regulatory focus literature. Regulatory focus has primarily been examined from an intrapersonal and self-regulation perspective (for meta-analytic evidence see Gorman et al., 2012; Lanaj et al., 2012). In contrast, we took an interpersonal perspective to regulatory focus. Supervisors may use promotion- or prevention-focused leadership to direct their employees, for example towards creative ends. Hence, examining the interpersonal effects of regulatory focus can bring new insights into the regulation of employee behaviors. Using this interpersonal approach, we contribute to an emerging stream of research that explores the interpersonal meaning and effect of regulatory focus (see also Kark & Van Dijk, 2007; Righetti et al., 2011; Sue-Chan et al., 2012; Wu et al., 2008).

Moreover, our results also showed that leader promotion focus affects employees' internal needs of progress and growth, whereas leader prevention focus results in conforming behaviors. Hereby, we complement the literature by showing that LRF (or regulatory focus in general) can motivate employees to be inspired by their innate needs (and thus be self-directed and intrinsically motivated), or it can result in employees following the ideas and actions of the supervisor (and thus looking for external perspectives). Thus, (leader) regulatory focus theory and theories on (intrinsic) motivation and conforming behaviors seem highly interrelated.

Finally, we further advanced the creativity literature. Creative behaviors of employees are not always a given within organizations, and often employees are more

likely to perform routine work actions. As Ford (1996) articulated, creative and habitual work actions can sometimes be competing behavioral options, and high engagement in creative courses of actions may often be less attractive to employees than carrying out habitual work actions. Hence, if creativity is desired, it needs proper guidance to be evoked. We contribute to the literature on the role of leadership in employee creativity by proposing and demonstrating that LRF is a promising construct that can promote followers to engage in creative courses of action. Specifically, our results suggest that a supervisor can guide employees to creativity by focusing on promotion goals that emphasize progression and whereby employees are inspired by internal hopes, wishes, and aspirations.

This research also offers several managerial implications. Organizations need creative employees to compete and survive in today's turbulent business markets (Shalley et al., 2004; Unsworth, 2001; Woodman et al., 1993). First, results of this study implicate that, to increase employee creativity, managers should show promotion-focused leadership and thus communicate promotion-focused goals to their employees. Guiding employees towards advancement, gains, and ideals, will make them eager to progress and move forward and they will do so by showing creative behaviors. On the other hand, communicating prevention-focused goals (non-losses, safety, and oughts) will result in employees showing less creative behaviors to avoid deterioration of the situation. Managers should thus be aware that whenever employees perceive that failure and losses should be avoided and mistakes cannot be made, this may have detrimental consequences for employees' creativity levels at work.

Second, managers who want a creative workforce, should make sure to guide their employees to pursue internal needs, and have them be inspired by their own

hopes and aspirations for the future. These internalized work values are most likely to promote intrinsic motivation and thereby creativity. On the other hand, given that conformity to supervisor inhibits creativity, supervisors should also insist that employees come up with own ideas and contributions, and supervisors should not be too specific in suggestions given to employees. Of course, when rule adherence and conforming behaviors are important in the workplace, supervisors could use prevention-focused leadership to make sure that employees follow the thoughts and actions of the supervisor.

Limitations and future directions

Despite our clear contributions to research and practice, there are also some limitations that deserve attention. First, we collected data from multiple organizations operating in different sectors. It could be that in some of these organizations (or sectors) creativity is more important or more necessary to complete work than in other organizations or sectors. Although creativity can be important in any kind of company (Shalley et al., 2000), and our results appear to generalize across different organizations, it is possible that LRF differs across companies depending on what type of work is done within that company. It is also possible that the relation between LRF and employee creativity differs across different sectors or types of companies, perhaps depending on the degree to which creativity is expected or part of employees' role (e.g., in R&D). Future work could examine this.

A second limitation is that, despite the longitudinal design, we cannot draw unequivocal causal conclusions. In particular, our mediators and employee creativity were measured at the same moment in time, which limits our ability to draw causal conclusions about the relation between intrinsic motivation for creativity and conformity to supervisor on the one hand and employee creativity on the other.

Although the direction of causality that we assume is theoretically plausible, it is feasible that for example higher levels of employee creativity are an antecedent rather than a consequence of high intrinsic motivation for creativity. By separating the measurement of mediators and employee creativity in time, or by employing an experimental design, more clarity about causality could be achieved.

Third, for the leader promotion focus-employee creativity relation, we only found partial mediation of intrinsic motivation for creativity. Thus, there seems to be other processes that can potentially explain this relationship. Possible avenues for future research are to examine employees' willingness to take risk as a mediator, or the expectations of the supervisor concerning employees' creative behaviors. It seems plausible that promotion-focused leadership may make employees more willing to take risks to achieve promotion goals, which in turn translates into employee creativity. Similarly, promotion-focused leadership may carry certain expectations about creative behaviors, which impel employees to engage in creative behaviors. Future work may consider these alternative mediators.

Our approach to LRF is to emphasize the goals that leaders adopt or set for their employees and the ways to reach these goals. Leadership, however, concerns more than goal-directed behavior. For example, leaders can use their expertise to help employees solve problems in a creative way, or can provide certain resources (e.g., time and money) that allow employees to work on creative tasks (see Mumford et al., 2002). Future research may clarify how other leadership behaviors or functions, together with LRF, influence employee creativity. Furthermore, it seems likely that the effects of LRF depend on employee characteristics. For example, a leader promotion focus may be more effective for employees with certain personality traits or characteristics that predispose them towards creative behaviors, such as high

creative self-efficacy or high openness to experience (e.g., see Vaughn, Baumann, & Klemann, 2008). Future work can examine this.

We also believe that leader prevention focus may not at all times negatively relate to employee creativity, and indeed the relation between leader prevention focus and employee creativity was not very strong (e.g., it only became significant in regressions controlling for leader promotion focus). It could be that the leader prevention focus-creativity relation depends on certain critical moderators. For example, individuals' own prevention focus does not undermine creativity under imminent threat (Baas, De Dreu, & Nijstad, 2011) or when creativity is functional to reach goals (Roskes, De Dreu, & Nijstad, 2012). The same may imply for leader prevention focus. This is an issue that should be addressed in future research: what if creativity is necessary to avoid failures or to creatively avert losses? Perhaps in these cases, leader prevention focus may stimulate rather than impede employee creativity.

A final avenue for future research is to examine alternative outcome variables. LRF is a relatively new leadership construct, which has only been related to creativity (Wu et al., 2008) and performance within a coach-coachee relationship (Sue-Chan et al., 2012). One outcome variable of particular interest is safety behavior. As suggested by Wu and colleagues (2008) leader prevention focus may be more likely associated with conservative behaviors (such as safety behavior) because they are compatible, in the same way as leader promotion focus is consistent with risky creative behaviors. Hence, future research could examine these more conservative behaviors.

Conclusion

Drawing on regulatory focus theory (Higgins, 1997) and the role of regulatory focus in leadership processes (Kark & Van Dijk, 2007), we proposed and showed that

leader regulatory focus (LRF) is an important leadership construct to examine in relation to employee creativity. Leader promotion focus enhances employee creativity, whereas leader prevention focus inhibits creative actions, and these effects are present over and above the effects of four established leadership constructs (consideration, initiating structure, transformational and contingent reward leadership). Moreover, we gave evidence for two underlying processes: promotion-focused leadership is related to creativity because it heightens employees' intrinsic motivation for creativity (but it does not affect their conforming behaviors), whereas prevention-focused leadership is related to creativity because employees tend to conform to their supervisor (but it does not undermine their intrinsic motivation). Concluding, we argued whether and how LRF is related to creativity, gave evidence for incremental predictive validity and underlying processes, and thereby showed that LRF is truly an important leadership behavior to consider when examining employee creativity.

CHAPTER 3

PROMOTING RADICAL CREATIVITY: HOW, WHY, AND WHEN LEADERS PROMOTE EMPLOYEE RADICAL CREATIVITY

Employees who are radically creative can be an important asset in times of rapid economic and technological change. Building on and expanding Ford's (1996) theory of creative action, we propose that leader promotion focus is positively related to employees' perception of leader creative expectations, and that these expectations are vital in stimulating employee radical creativity. Moreover, we examine leader-member exchange (LMX) as boundary condition of the effects of leader promotion focus on perceived leader creative expectations, and creative self-efficacy as moderator on the relationship between leader creative expectations and employee radical creativity. Using data from employees and their direct supervisor from various organizations in the Netherlands we find full support for our predictions. Implications for theory and practice are discussed.

INTRODUCTION

In today's dynamic and turbulent business environment, companies need a creative workforce to thrive and be competitive (Oldham & Cummings, 1996; Shalley et al., 2004). Consequently, research into employee creativity – defined as "the production of novel and useful ideas in any domain" (Amabile et al., 1996: 1155) – has surged in recent year (for recent reviews, see Anderson, Potočnik, & Zhou, 2014; Zhou & Hoever, 2014). Only recently, however, has it been recognized that not all creative ideas are created equal. In particular, Madjar and colleagues (2011: 731) distinguished between incremental creativity ("ideas [that] imply few changes in frameworks and offer only minor modifications of existing practices and products") and radical creativity ("ideas that differ substantially from an organization's existing practices"), and found that they had different antecedents (also see Gilson & Madjar, 2011; Mumford & Gustafson, 1988; Venkataramani, Richter, & Clarke, 2014). Because radical ideas are those ideas that may lead to breakthroughs and potentially have a large effect on organizational functioning and performance (Gilson & Madjar, 2011), we seek to increase our understanding of the factors that facilitate radical creativity among employees. Building on Ford's (1996) theory of creative action, we focus on the role of leadership, and examine how, why, and when leaders may stimulate radical creativity among their employees.

According to Ford's (1996) theory of creative action, creativity and habitual behavior are competing behavioral options. Generally, employees tend to resort to familiar behavioral actions rather than engaging in creative endeavors. This is because actors in organizational settings develop and share common frames of habitual thought and action (Weick, 1979) that facilitate conformity and constrain behaviors that lead to variation. Even in job situations that would favor a creative response,

employees tend to choose habitual actions that are "more attractive based on their past success, relative ease, and certainty" (Ford, 1996: 1116). This preference for habitual behavior is likely even stronger where radical rather than incremental creativity is concerned, because radical creativity implies even higher risk and uncertainty, and by definition challenges the status quo (Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014). Employees are therefore not very likely to engage in radical creativity unless they receive clear and salient cues or triggers from their environment to do so (see also Zhou & George, 2003). In particular, they need to have high receptivity beliefs: they need to believe that creativity is expected and rewarded rather than discouraged or punished (Ford, 1996).

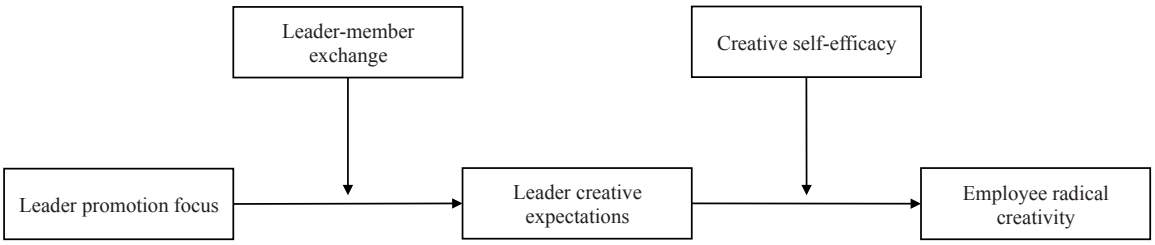
In this contribution, we build on and expand Ford's (1996) theory to examine the role of leadership in stimulating radical creativity. We firstly propose that when employees perceive that their leader sets specific role expectations for creativity, they will display more radical creativity. Indeed, creativity expectations from the supervisor may legitimize the pursuit of (radical) creativity (Ford, 1996). We secondly propose that these perceived leader expectations for creativity are the result of the goals that leaders set and communicate towards employees. Specifically, the more these goals challenge the status quo and emphasize progress and change, which we refer to as leader promotion focus goals (Said, Nijstad, Janssen, & Vriend, 2015; Sue-Chan et al., 2012; Wu et al., 2008), the more employees believe their leader expects them to engage in creative action. Thirdly, we suggest that the quality of the role-making process that is negotiated between leaders and employees (also known as leader-member exchange [LMX]; Graen & Uhl-Bien, 1995) operates as a boundary condition that determines the extent to which leader promotion focus goals shape employee perceptions of creative expectations. Finally, and following Ford's (1996)

theory, we argue that creative self-efficacy, as capability beliefs regarding creative behaviors, may determine whether employees will or will not turn expectations into radical creative actions. Our conceptual model of the relation between leadership and radical creativity can be found in Figure 3.1. We tested this model in a sample of Dutch employees and their supervisors.

We make several contributions to the research on creativity and leadership. Whereas the distinction between radical and incremental creativity has been made before (see Mumford & Gustafson, 1988; Oldham & Cummings, 1996; Shalley & Gilson, 2004; Shalley et al., 2004; Zhou & George, 2003), only recently research has started to empirically examine the antecedents of radical creativity (see Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014). We contribute to and extend this research by giving the supervisor a prominent role in shaping employees' understanding of the situation and their engagement in radical creativity. Second, although leader promotion focus has been related to employee creativity (Said et al., 2015; Wu et al., 2008), the processes by which leader promotion focus is related to (radical) creativity are not yet fully understood. Our research suggests that leader creative expectations are a viable mediator of the relationship between leader promotion focus and radical employee creativity. Third, we demonstrate that goal-focused (leader promotion focus) and relational leadership (LMX) together predict the extent to which employees perceive and follow creativity expectations of their supervisor. Finally, and consistent with the interactionist approach of Ford's (1996) theory of creative action (e.g., also see George & Zhou, 2001; Oldham & Cummings, 1996; Shin & Zhou, 2003), we show that leader creative expectations and creative self-efficacy jointly contribute to employee radical creativity.

FIGURE 3.1

Conceptual model



THEORY AND HYPOTHESES

Leader promotion focus, leader creative expectations, and radical creativity

Research has acknowledged that creative ideas can range from minor adaptations or changes to major breakthroughs and completely new products or processes (e.g., Mumford & Gustafson, 1988; Oldham & Cummings, 1996; Shalley, et al., 2004; Zhou & George, 2003). In more recent years, this distinction has also been made empirically, and research has started to examine the different antecedents of both types of creativity. Research has shown, for example, that to facilitate incremental creativity, the presence of creative coworkers, organizational identification, and extrinsic motivation are important, whereas radical creativity benefits from employees' willingness to take risks, resources for creativity, career commitment, intrinsic motivation, and leader social network ties (see Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014).

To advance understanding of the role of leadership in stimulating radical creativity, it is important to note that creativity is not part of the job for most employees (Zhou & George, 2003), and that common frames of habitual thought and action held by employees constrain rather than facilitate engagement in creative actions. This will particularly apply to radical creativity, because it entails much risk,

uncertainty, and a major change in the status quo (Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014). Considering this preference for habitual action, the premise of Ford's (1996) theory of creative action is that creativity is not very likely to emerge unless employees expect that creative acts produce personal consequences that are more desirable than habitual behaviors. Therefore, employees need to hold high receptivity beliefs that make them believe that radical creativity is expected, valued, and rewarded. Indeed, radical creative actions may not be pursued as long as habitual behaviors or incremental creativity remain the more attractive options.

According to Ford's (1996) theory, receptivity beliefs are expectations reflecting an employee's mapping of the selection processes imposed by the people who populate and regulate the work domain. When employees perceive that creative acts have positive consequences (i.e., new ideas are recognized and rewarded), they form favorable expectations regarding creativity, thereby making engagement in creative behavior more likely in future occasions. Leaders can substantially influence the receptivity beliefs that employees form regarding creativity. As the power holders of the current status quo in the work domain, leaders have the authority and resources to legitimize and sanction creative actions (to be) performed by employees and to decide whether creative outcomes can become part of the work domain (also see Amabile, 1988, 1996; Csikszentmihalyi, 1990, 1996). Consequently, leaders can shape receptivity beliefs by setting certain goals, and these goals may expand role expectations beyond familiar habitual behavior to include creative behaviors. We propose that goals that specifically guide employees towards change, growth, and progress may show to employees that radical creativity is expected and valued. These

goals are effectively captured within a relatively new leadership construct called leader promotion focus (Said et al., 2015; Sue-Chan et al., 2012; Wu et al., 2008).

Taking an interpersonal perspective on regulatory focus theory (Higgins, 1997), recent research has identified two different types of regulatory goals that leaders can adopt to influence employee motivation and behavior: promotion and prevention goals (Said et al., 2015; also see Kark & Van Dijk, 2007; Sue-Chan et al., 2012; Wu et al., 2008). Promotion-focused leadership aims at motivating employees to pursue maximal goals (gains, advancement, ideals), whereas prevention-focused leadership guides employees to pursue minimal goals (non-losses, security, oughts). Because recent research has identified leader promotion goals as a significant driver of employee creativity (Said et al., 2015), we focus on those goals in our examination of how leaders can enhance employee receptivity beliefs for creativity, thereby leaving leader prevention goals out of further consideration.

Promotion-focused leadership is about highlighting maximal goals (gains, advancement, ideals) that should be attained. These goals stimulate employees to change the status quo for the better, to improve the situation, and to progress to a better state. Employees should be eager to attain these maximal outcomes, implying that employees are allowed to take opportunities that may bring about positive changes. Because of this strong emphasis on progress, promotion-focused leadership goals indicate to employees that they can take chances, and that leaders expect creativity in finding ways to improve the situation. Given that promotion-focused leadership contains cues towards change, creativity expectations become apparent to employees. We therefore hypothesize:

Hypothesis 1a: Leader promotion focus is positively related to leader creative expectations.

In turn, leader creative expectations will increase the likelihood that employees show radical creativity. The Pygmalion effect (see Eden, 1984; Livingston, 1969; Scott & Bruce, 1994; Tierney & Farmer, 2004) entails that "positive external expectations about someone's performance or capabilities produce higher performance" (Tierney & Farmer, 2004: 414). Thus, expectations of significant others can shape and modify subsequent behaviors. These expectations show to employees that creativity is a role requirement, and therefore dictate whether employees will engage in creative efforts (see also Shalley & Gilson, 2004).

According to the evidence, these expectations may indeed directly or indirectly relate to employees' creative behaviors. Tierney and Farmer (2004) have shown that creative expectations of the supervisor facilitate employee creativity through a series of processes: creativity expectations lead to creativity-supportive behaviors, then lead employees to feel that they are better capable of performing creative actions, which then affects their creative performance (also see Tierney & Farmer, 2011). Carmeli and Schaubroeck (2007) showed that perceptions of leader creative expectations relate to creative work involvement using self-expectations for creativity as a mediator. Finally, Scott and Bruce (1994) found that supervisors' innovation expectations for employees directly related to innovative behavior. We therefore expect perceived leader creative expectations to positively relate to radical employee creativity:

Hypothesis 1b: Leader creative expectations are positively related to employee radical creativity.

Concluding, we expect that leader promotion focus results in leader creative expectations, whereas these expectations are necessary for employees to engage in the development of radical creative ideas. Therefore, we propose the following:

Hypothesis 1c: Leader creative expectations mediate the relationship between leader promotion focus and employee radical creativity.

The moderating effect of leader-member exchange

Ford's (1996) theory of creative action conceptualizes leadership as a work domain-based influence that can interact with other characteristics of the work situation in their effect on employee expectations and creative pursuits. Accordingly, we propose that leader-member exchange (LMX) may operate as a boundary condition that can explain why some employees are more susceptible to the influence of leader promotion goals than others. LMX theory posits that, through a role making and role-negotiation process, leaders establish high-quality relationships based on mutual trust, respect, and obligation with some employees, whereas with other employees the relationship is of low quality and based on the formal work contract (Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998). High-quality LMX entails that leaders and employees go beyond their formal work contract to benefit each other, whereas in low-quality LMX relationships the leader and the employee work solely according to their contract.

There are two reasons why LMX may moderate the relationship between leader promotion focus and leader creative expectations. First, leadership is about goals displayed within a social relationship (Yukl, 2010), and this relationship is important to effectively transfer goals and convey influence. Social relationships predict the extent to which employees are susceptible to leader influence. As Piccolo and Colquitt (2006) argue, leadership implies that employees partly surrender the power to define their own reality to their supervisor. However, employees can also resist leadership behaviors, and this resistance can be captured within the quality of the LMX relationship. High LMX employees have more trust in and commitment to

their leader, and therefore may be more open and receptive to leaders' social influence, whereas low LMX employees mainly rely on formal communication that may not be sufficient for leader behaviors to be fully transferred. Likewise, Neubert, Wu, and Roberts (2013) argue that the quality of the relationship between leaders and employees is likely to interact with specific leadership behaviors to determine the extent to which employees are receptive to leader influence. More specifically, they argued that in high (compared to low) LMX relationships, the leader is trusted and attractive, and can therefore have a stronger influence on employees' motivations, mindsets, and behaviors (also see Zhang, Jia, & Gu, 2012). Moreover, employees in high LMX relationships have more frequent interactions with their supervisor, which may increase the opportunity to experience what the leader values, expects, and rewards. These interactions are limited for low LMX employees, and therefore leader behavior may be less effectively conveyed to and perceived by employees.

Second, as outlined by Hofmann, Morgeson, and Gerras (2003), employees in high-quality exchange relationships experience a perceived obligation to reciprocate this relationship (see also Blau, 1964; Gouldner, 1960), and one way employees can do this is by enlarging their roles beyond in-role performance. Employees are likely to expand their roles by including behaviors that are consistent with those behaviors that are valued in the environment. Given that leader promotion focus signals to employees that creativity is an expected behavior to attain goals, we propose that high LMX employees are more likely to perceive creativity expectations than their low LMX counterparts.

Concluding, we expect that LMX moderates the relationship between leader promotion focus and leader creative expectations, such that this relationship is stronger under high compared to low LMX. Therefore, we propose the following:

Hypothesis 2: The relationship between leader promotion focus and leader creative expectations is moderated by leader-member exchange, such that this relationship is more pronounced when the quality of leader-member exchange is high rather than low.

The moderating effect of creative self-efficacy

Following Ford's (1996) theory, receptivity beliefs, as captured by leader creativity expectations, may not be enough to ensure employee creativity. Rather, employees also need to have high beliefs in their capability to successfully undertake creative courses of action. Capability beliefs are likely to interact with receptivity beliefs to determine whether employees will engage in radical creative behaviors or not. We therefore examine creative self-efficacy, which has been defined as "the belief one has the ability to produce creative outcomes" (Tierney & Farmer, 2002: 1138). Hence, we specifically examine the interplay between leader creative expectations and personal characteristics of employees (i.e., an interactionist approach), because to fully understand how leadership affects employee behaviors, also the characteristics of employees should be taken into account (George & Zhou, 2001; Oldham & Cummings, 1996; Shalley et al., 2004; Shin & Zhou, 2003).

Employees should believe that their efforts will lead to the expected performance outcomes, or otherwise employees will not engage in these efforts. Creative self-efficacy is this creativity belief regarding employees' creative capabilities, and therefore may determine whether employees see their creative efforts as futile or not. Following Ford's (1996) framework – which is partly based on expectancy theory (Porter & Lawler, 1968; Vroom, 1964) – we argue that not all employees may react similarly to leader creative expectations. Employees scoring low on creative self-efficacy may resist engaging in radical creative behaviors, because

they believe that their creative attempts will not prove successful (see also Tierney & Farmer, 2002). If employees believe that they do not possess the skills and abilities necessary to show creative behaviors, they may be unable or unwilling to engage in this behavior. Given that creative efforts are risky and might fail, employees with lower self-efficacy beliefs will choose not to engage in the development of creative ideas (Carmeli & Schaubroeck, 2007). Indeed, if employees believe that (radical) creative outcomes are not attainable, this will result in lower motivation towards this behavior, and employees may not engage in creative behaviors irrespective of the clear expectations of the leader concerning employee creativity. Employees scoring high on creative self-efficacy, in contrast, will believe that their creative endeavors result in creative performance. Thus, these employees will be motivated to engage in creative efforts, as they believe that their efforts will be successful. Employees with high creative self-efficacy believe they have the cognitive resources necessary to show radical creativity and will therefore be motivated to show this behavior, and will try to meet situational demands that highlight the importance of creative behaviors (see also Hsu, Hou, & Fan, 2011). Therefore, employees scoring high on creative self-efficacy will live up to the creativity expectations of the supervisor and show radical creative behaviors. Creative self-efficacy may especially be important for radical creativity, because, as Mumford and Gustafson (1988) argue, individuals' beliefs in their ability to generate major solutions facilitates the engagement in divergent thinking and thereby the production of radical breakthrough ideas. Minor contributions (i.e., incremental creativity) may not necessarily require divergent thinking.

Empirical evidence suggesting that creative self-efficacy can act as a moderator, however, is limited. One study specifically deals with this subject:

Carmeli and Schaubroeck (2007) studied how the relationship between self-expectations for creativity and creative work involvement was moderated by creative self-efficacy. Their results showed that, as expected, creative expectations foremost have an influence on creative work involvement when creative self-efficacy is high opposed to low. For employees scoring low on creative self-efficacy, expectations had little effect on creative work involvement.

Concluding, we expect that leader creative expectations will have a strong positive effect on radical creativity for employees scoring high on creative self-efficacy, whereas for employees scoring low on creative self-efficacy this effect will be weaker as they may decide not to engage in this radical behavior because of their low capability beliefs. Therefore, we propose the following:

Hypothesis 3: The relationship between leader creative expectations and employee radical creativity is moderated by employee creative self-efficacy, such that this relationship is more pronounced when employees have high rather than low levels of creative self-efficacy.

Combining the above three hypotheses, we expect that leader promotion focus has an indirect effect on radical employee creativity through leader creative expectations, and that the first path is moderated by LMX and the second path by creative self-efficacy, such that this indirect effect is strongest when LMX and creative self-efficacy are high as opposed to low. Therefore, we propose the following:

Hypothesis 4: Leader promotion focus has a positive effect on employee radical creativity via leader creative expectations, and this effect is stronger when leader-member exchange (as first path moderator) and creative self-efficacy (as second path moderator) are high as opposed to low.

METHODS

Sample and procedure

To test our hypotheses, we collected data from employees and their direct supervisors in different companies in the Netherlands in March/April 2013. Companies operated in different industries, such as banking, consultancy, retail, and education, and per company only one supervisor with his/her direct employees participated.

After supervisors formally agreed to participate in our research, they received a package that included their own paper-and-pencil questionnaire, a maximum of 15 paper-and-pencil employee-questionnaires (depending upon how many subordinates they had), and envelopes in which respondents could put their completed questionnaires. Supervisors were asked to rate employees on radical creativity, and to limit supervisors' work and increase rating-accuracy we set the maximum on 15 employees per supervisor (to be selected by alphabetical order). Supervisors were asked to distribute the employee-questionnaire among their employees, and also to rate those employees in their own questionnaire. Before giving separate ratings for each employee, supervisors had to write down the name of the employee above the ratings, so we could match answers of employees and supervisors. Supervisors were also asked to write down their own name in their questionnaire.

In their questionnaire, employees were specifically asked to answer the questions about leadership with the supervisor in mind who handed them the questionnaire. To check and to be able to match answers, employees were also asked to write down their own name and the name of their supervisor. To ensure confidentiality of answers, employees put their completed questionnaire in sealed

envelopes, and handed them in at their supervisor. We collected all questionnaires in their sealed envelopes from the supervisor again.

In total, 65 supervisors received a survey-package, with in total questionnaires for 615 employees. We received questionnaires from 60 supervisors (92.31% response) and 445 employees (72.36% response). After data collection, we were able to match 319 employees with their creativity ratings given by 58 supervisors. Cases with incomplete data were removed. Of the employees retained in the sample, 192 were male and 127 female, and the average age was 35.03 years (*SD* = 13.41), ranging between 15 and 75. Most employees held a lower (103) or higher college degree (91). They were working at their current companies on average for 7.75 years (*SD* = 8.77, *range* = 0 to 39). Of the 58 supervisors, 41 were male and 16 female (one supervisor did not report any socio-demographics). Their average age was 42.58 years (*SD* = 11.82, *range* = 23 to 62), and most supervisors held a higher college (24) or university degree (18). Average current organizational tenure was 12.32 years (*SD* = 10.49, *range* = 1 to 38). Supervisors on average rated 5.50 employees (*SD* = 2.74), ranging between 1 and 12.

Measures

All items were measured on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Questionnaires were in Dutch, and we translated the scales from English to Dutch using a back-translation procedure (Brislin, 1970). Supervisors rated employees on radical creativity, whereas all other variables were measured at the employee level.

Leader promotion focus. We adapted the promotion focus scale of Wallace and colleagues (2009; see also Wallace & Chen, 2006) to form a measure of perceived leader promotion focus. Each of the four items started with ‘My supervisor

motivates me to primarily focus on', and the items were (α = .86): 'achieving positive outcomes at work', 'achieving success at work', 'my aspirations and ideals when working', and 'fulfilling my work as successful as possible'.

Leader creative expectations. We measured leader creative expectations with a three-item scale based on Tierney and Farmer's (2004) measure of employees' view of creativity expectations. The three items were (α = .82): 'My supervisor expects me to do creative work', 'My supervisor requires creativity of me in my daily work', and 'I am encouraged by my supervisor to solve problems creatively'.

Leader-member exchange. Leader-member exchange was measured using the 11-item scale of Liden and Maslyn (1998; α = .88). Example items were: 'My supervisor would come to my defense if I were "attacked" by others' and 'I do work for my supervisor that goes beyond what is specified in my job description'.

Creative self-efficacy. To measure creative self-efficacy, we used the three-item scale developed by Tierney and Farmer (2002). Employees were asked to think about the extent to which they believed they were creative in general. The items were (α = .77): 'I feel that I am good at generating novel ideas', 'I have confidence in my ability to solve problems creatively', and 'I have a knack for further developing the ideas of others'.

Radical creativity. Employees' radical creativity was measured using a slightly adapted version of the three-item supervisory rating scale of Madjar and colleagues (2011). Items were (α = .88): 'This employee is a good source of highly creative ideas', 'This employee demonstrates originality in his/her work', and 'This employee suggests radically new ways for doing work'.

Convergent and divergent validity

To assess convergent and divergent validities, we estimated different measurement models using Mplus 7.11 (Muthén & Muthén, 1998-2012). Models were compared by means of χ^2-differences, and we assessed model fit using the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Standardized Root Mean Square Residual (SRMR). In the baseline model, constructs were correlated as first-order factors with items loading on their respective factors without cross-loadings. As can be seen in Table 3.1, the baseline model had a reasonable fit to the data (χ^2[242] = 766.76; RMSEA = .08 [90%: .08 to .09]; CFI = .87; TLI = .85; SRMR = .07), although CFI and TLI values are somewhat low. Alternative models provided a worse fit to the data.

Analytic approach

Given the multilevel structure of the data, in which employees are nested within supervisors, we analyzed our data using multilevel analyses with random intercepts for the supervisor-level. Calculating intra-class correlations on supervisor-level indeed showed that there was significant variance between supervisors in terms of radical creativity (*ICC* = .22, $p \leq .001$) and leader creative expectations (*ICC* = .18, $p \leq .001$). In our analyses, we standardized all the main study variables.

RESULTS

Descriptive statistics and intercorrelations

Table 3.2 presents the means, standard deviations, and intercorrelations among the variables. In line with our reasoning, we found that leader creative expectations were positively correlated with leader promotion focus ($r = .39$, $p \leq .001$) and radical creativity ($r = .20$, $p \leq .001$). Leader promotion focus was not significantly correlated

TABLE 3.1

Confirmatory factor analyses

Factor structure	χ^2	df	RMSEA (90% CI)	CFI	TLI	SRMR	$\Delta\chi^2(\Delta df)$
Baseline model: five factors	766.76	242	.08 (.08-.09)	.87	.85	.07	
Model 1: one factor	2192.98	252	.16 (.15-.16)	.51	.47	.12	1426.22(10)***
Model 2: two factors	1666.25	251	.13 (.13-.14)	.65	.61	.11	899.49(9)***
Model 3: four factors	1094.33	246	.10 (.10-.11)	.79	.76	.08	327.57(4)***
Model 4: four factors	1086.18	246	.10 (.10-.11)	.79	.76	.08	319.42(4)***
Model 5: two factors	1630.93	251	.13 (.13-.14)	.65	.62	.10	864.17(9)***
Model 6: three factors	1397.55	249	.12 (.11-.13)	.71	.68	.09	630.79(7)***
Model 7: four factors	1001.07	246	.10 (.09-.10)	.81	.79	.09	234.31(4)***

Notes. $N = 319$. $\Delta\chi^2$ and Δdf refer to the differences with the baseline model. Changes relative to baseline model: Model 1: all variables on one factor; Model 2: leader promotion focus, leader creative expectations, leader-member exchange, and creative self-efficacy on one factor; Model 3: leader promotion focus and leader creative expectations on one factor; Model 4: leader promotion focus and leader-member exchange on one factor; Model 5: leader promotion focus, leader creative expectations, and leader-member exchange on one factor, and creative self-efficacy and employee radical creativity on one factor; Model 6: leader promotion focus, leader creative expectations, and leader-member exchange on one factor; Model 7: leader creative expectations and creative self-efficacy on one factor. *** $p \leq .001$.

TABLE 3.2

Descriptive statistics and intercorrelations

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Gender (1 = male, 2 = female)	1.40	.49	-								
2. Age (in years)	35.03	13.41	-.04	-							
3. Education level (1 = low, 2 = high)	1.47	.50	.06	.11†	-						
4. Organizational tenure (in years)	7.75	8.77	.01	.66***	-.02	-					
5. Leader promotion focus	3.80	.73	.02	-.05	-.16**	.01	(.86)				
6. Leader creative expectations	3.65	.83	.04	.18***	-.13*	.11*	.39***	(.82)			
7. Leader-member exchange	3.89	.61	-.06	.12*	-.08	.08	.59***	.37***	(.88)		
8. Creative self-efficacy	3.73	.64	-.15**	.01	-.03	-.05	.05	.29***	.10†	(.77)	
9. Radical creativity	3.20	.96	-.13*	.03	.10†	.02	.06	.20***	.12*	.25***	(.88)

Notes. $N = 319$. Cronbach's Alphas between parentheses on the diagonal. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

with radical creativity (r = .06). Moreover, results showed that LMX was positively related to leader promotion focus (r = .59, $p \leq .001$), leader creative expectations (r = .37, $p \leq .001$), creative self-efficacy (r = .10, $p \leq .10$), and radical creativity (r = .12, $p \leq .05$), whereas creative self-efficacy was positively related to leader creative expectations (r = .29, $p \leq .001$) and radical creativity (r = .25, $p \leq .001$). In terms of demographic variables, we found that gender was negatively related to creative self-efficacy (r = -.15, $p \leq .01$) and radical creativity (r = -.13, $p \leq .05$), that age was positively related to leader creative expectations (r = .18, $p \leq .001$) and leader-member exchange (r = .12, $p \leq .05$), that education level was negatively related to leader promotion focus (r = -.16, $p \leq .01$) and leader creative expectations (r = -.13, $p \leq .05$), and positively to radical creativity (r = .10, $p \leq .10$), and that organizational tenure was positively related to leader creative expectations (r = .11, $p \leq .05$).

Control variables

For two reasons we controlled for employee gender, age, education level and organizational tenure in our analyses. First, these variables have all been shown to relate to creativity (see e.g., Baer & Kaufman, 2008; Fasko, 2000; Ruth & Birren, 1985; Zhang & Bartol, 2010a; see also Madjar et al., 2011 for inclusion of these specific control variables). Second, following Becker (2005), the correlation table shows that these demographics are all related to one or more of the study variables, which justifies including them as control variables. We do want to stress that results, and thereby the conclusions, remained practically identical when excluding (a subset of) the control variables.

Hypotheses testing

We tested our hypotheses using Mplus 7.11 statistical software (Muthén & Muthén, 1998-2012). We first proposed that leader promotion focus would indirectly

relate to radical employee creativity via leader creative expectations. Confirming Hypothesis 1a, results (see Table 3.3) showed that leader promotion focus had a positive relationship with leader creative expectations ($B = .38$, $p \leq .001$). Leader creative expectations were positively related to employees' radical creativity ($B = .20$, $p \leq .001$), which confirmed Hypothesis 1b. This effect was also significant when controlling for leader promotion focus ($B = .19$, $p \leq .01$). As can be seen in the lower part of Table 3.3, calculation of the indirect effect indeed showed a significant result (*indirect effect* = .07, $p \leq .01$). Hence, Hypothesis 1c was also accepted, meaning that leader creative expectations mediated the relationship between leader promotion focus and employee radical creativity.

To test Hypothesis 2, which stated that LMX moderates the relationship between leader promotion focus and leader creative expectations, we created an interaction term of the standardized leader promotion focus and LMX variables (following Aiken & West, 1991). As can be seen in Table 3.4, leader promotion focus and LMX were both positively related to leader creative expectations. More importantly, however, we found a significant interaction effect ($B = .08$, $p \leq .05$), which confirmed Hypothesis 2. Plotting these results (see Figure 3.2) indeed showed that the effect of leader promotion focus on leader creative expectations was more pronounced under high levels of LMX ($B = .40$, $p \leq .001$) compared to low levels ($B = .24$, $p \leq .001$).

Then, to examine Hypothesis 3 about the moderating effect of creative self-efficacy on the relationship between leader creative expectations and radical creativity, we also created the interaction term of the standardized leader creative expectations and creative self-efficacy variables. Results in Table 3.4 show that both leader creative expectations and creative self-efficacy positively predicted employees'

TABLE 3.3

Unstandardized regression coefficients for direct and indirect effects (Hypothesis 1)

Direct effects				
	Dependent variable			
Variable	Leader creative expectations	Radical creativity		
Gender (1 = male, 2 = female)	.05 (.05)	-.16** (.05)	-.17*** (.05)	-.17*** (.05)
Age (in years)	.20** (.07)	-.07 (.09)	-.11 (.09)	-.10 (.09)
Education level (1 = low, 2 = high)	-.07 (.06)	.14** (.05)	.15** (.06)	.15** (.06)
Organizational tenure (in years)	-.01 (.06)	.04 (.07)	.04 (.07)	.04 (.07)
Leader promotion focus	.38*** (.06)	.09† (.05)		.02 (.05)
Leader creative expectations			.20*** (.06)	.19** (.06)
R^2	.21*** (.05)	.06* (.03)	.09** (.03)	.09** (.03)
Indirect effect				
Leader promotion focus → Leader creative expectations → Radical creativity				.07** (.02)

Notes. $N = 319$. Standard errors between parentheses. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

TABLE 3.4

Unstandardized regression coefficients for direct, interaction, and conditional indirect effects

Direct and interaction effects					
	Dependent variable				
Variable	Leader creative expectations (Hypothesis 2)		Radical creativity (Hypothesis 3)		Radical creativity (Hypothesis 4)
Gender (1 = male, 2 = female)	.06 (.05)	.06 (.05)	-.13* (.05)	-.12* (.05)	-.12* (.05)
Age (in years)	.17* (.07)	.15* (.07)	-.11 (.09)	-.11 (.08)	-.11 (.08)
Education level (1 = low, 2 = high)	-.07 (.05)	-.06 (.05)	.15** (.06)	.14** (.06)	.15** (.05)
Organizational tenure (in years)	-.00 (.06)	.01 (.06)	.06 (.07)	.04 (.07)	.04 (.07)
Leader promotion focus	.28*** (.06)	.32*** (.05)			.01 (.05)
Leader-member exchange	.18** (.07)	.22*** (.06)			
Leader promotion focus x Leader-member exchange		.08* (.04)			
Leader creative expectations			.13* (.06)	.12* (.06)	.12† (.07)
Creative self-efficacy			.20*** (.06)	.23*** (.05)	.23*** (.05)
Leader creative expectations x Creative self-efficacy				.11*** (.04)	.11** (.04)
R^2	.24*** (.05)	.26*** (.05)	.12*** (.03)	.14*** (.04)	.14*** (.04)

Conditional indirect effects (Hypothesis 4)		
Leader-member exchange (first path moderator)	Creative self-efficacy (second path moderator)	Effect
-1 SD	-1 SD	.00 (.02)
-1 SD	0 SD	.03† (.02)
-1 SD	+1 SD	.05** (.02)
0 SD	-1 SD	.00 (.02)
0 SD	0 SD	.04† (.02)
0 SD	+1 SD	.07** (.03)
+1 SD	-1 SD	.00 (.03)
+1 SD	0 SD	.05 (.03)
+1 SD	+1 SD	.09* (.04)

Notes. $N = 319$. Standard errors between parentheses. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

FIGURE 3.2

Interaction plot of leader promotion focus x leader-member exchange on leader creative expectations

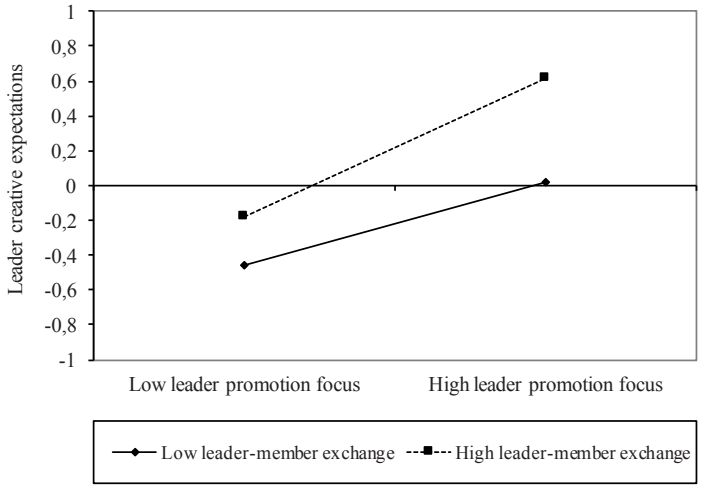
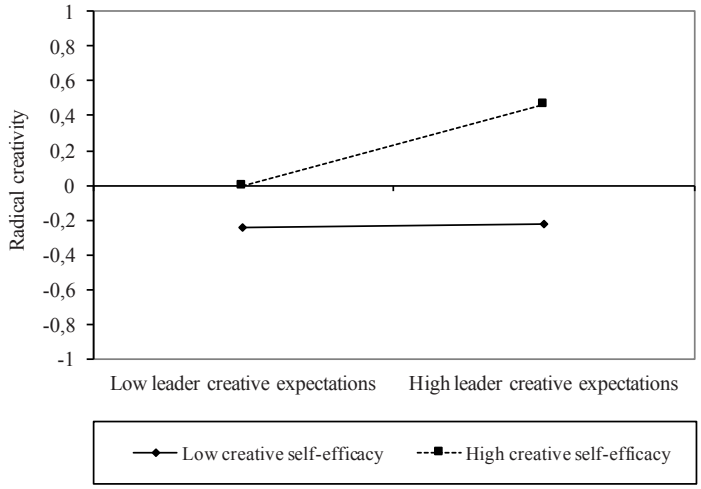


FIGURE 3.3

Interaction plot of leader creative expectations x creative self-efficacy on radical creativity



radical creativity, and that in the second step the interaction term also significantly related to creativity ($B = .11$, $p \leq .001$). The interaction plot (see Figure 3.3) showed that leader creative expectations only had a significant effect on radical creativity under high levels of creative self-efficacy ($B = .24$, $p \leq .01$), whereas this relationship was non-significant under low level of creative self-efficacy ($B = .01$). Thus, Hypothesis 3 was also accepted.

Finally, to examine Hypothesis 4, we calculated the indirect effect of leader promotion focus on radical creativity via leader creative expectations, moderated by LMX on the first path and by creative self-efficacy on the second path. As can be seen in the lower part of Table 3.4, the indirect effect of leader promotion focus on radical creativity was strongest under high levels of LMX together with high levels of creative self-efficacy ($B = .09$). When LMX was low (as opposed to high), the indirect effect of leader promotion focus on radical creativity was weaker but significant, whereas under low (as opposed to high) levels of creative self-efficacy this indirect effect was not significant. These results logically follow Hypothesis 1, 2, and 3, and give support for Hypothesis 4.

DISCUSSION

Summary and discussion of results

Using Ford's (1996) theory of creative action, we examined how, why, and when leaders affect employees' radical creativity. Specifically, we proposed and showed that leader promotion focus is positively related to employee perceptions of leader creativity expectations, and that these expectations are vital in stimulating radical creativity because they legitimize the pursuit of sweeping creative ideas. Moreover, we argued and showed that leader promotion focus goals will foremost have an influence on expectations when leaders have a high-quality LMX relationship

with their employees (Neubert et al., 2013; Piccolo & Colquitt, 2006), and that creative self-efficacy acts as an important boundary condition for turning expectations into radical creative outcomes. Finally, we found evidence for our moderated mediation model: leader promotion focus has an indirect effect on radical creativity via leader creative expectations, and this effect is more pronounced when LMX and creative self-efficacy are high as opposed to low. These results clearly contribute to the literature by showing how, why, and when leaders can stimulate radical creativity, and thereby we add to the scarce literature and empirical findings on factors related to radical creativity (but also see Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014).

While we found clear support for our predictions, our results also raise the valid question why we did not find a direct relation between leader promotion focus and radical creativity. This seems to be somewhat in contrast with previous research by Wu and colleagues (2008) and Said and colleagues (2015) showing a positive relationship between leader promotion focus and (general) employee creativity. This may suggest that promotion-focused leadership is not enough to evoke *radical* creativity: whereas promotion focus goals might directly stimulate employees to show other types of creativity, such as incremental creativity, boundary conditions such as high LMX and creative self-efficacy may be needed in the case of radical creativity. Perhaps, creativity expectations are needed especially for radical creativity, and these expectations are more effectively conveyed in a high LMX relation. Further, creative self-efficacy could be more important for radical than incremental creativity. Future research may examine how leader promotion focus differentially relates to incremental, general, and radical creativity.

Theoretical and managerial implications

The present study has implications for the creativity, leadership, and regulatory focus literature. Although the conceptual distinction between different types of creativity has been made long ago (e.g., Mumford & Gustafson, 1988), only recently has research empirically examined the different antecedents of radical and incremental creativity (e.g., see Gilson & Madjar, 2011; Madjar et al., 2011), and very limited research has dealt specifically with radical creativity (Venkataramani et al., 2014). Whereas this previous work focused on resources and employees' commitment and motivation as antecedents of radical creativity, we contributed to the literature by giving the leader a central role. Following Ford's (1996) theory of creative action, we argued that leaders shape employees' receptivity beliefs about whether creativity is a valuable and legitimate behavior, and these receptivity beliefs are the important driver of radical creativity. So, even though employees often see creative actions as the less favorable option compared to habitual performance (Ford, 1996), employees become willing to show radical creative behaviors when they believe that such behaviors are expected by their leader. Hereby, we further clarified how radical creativity can be stimulated in the workplace.

Our research also has implications for the interactionist approach to employee creativity (George & Zhou, 2001; Oldham & Cummings, 1996; Shalley et al., 2004; Woodman et al., 1993). This approach, which is also in line with Ford's (1996) theory, contends that both contextual factors and individual characteristics of employees should be taken into account when predicting creativity at work. We showed that to promote radical creativity among employees, both leadership (as contextual factor) and creative self-efficacy (as employee characteristic) are necessary. Specifically, leader expectations regarding creativity can stimulate radical

employee creativity, but only for employees who have high beliefs in their ability to be creative, and not for those who lack those beliefs.

Further, previous research has mainly examined creative self-efficacy as antecedent of creativity or as a mediator between supervisory behaviors and creativity (see for example Tierney & Farmer, 2004). We, however, argued that creative self-efficacy might act as a boundary condition, as it determines whether or not employees are able to transform leader expectations for creativity into actual engagement in radical creative actions. Our research is in line with that of Carmeli and Schaubroeck (2007), who also examined creative self-efficacy as a moderator, albeit in combination with self-expectations for creativity and creative work involvement. Hence, we provide further evidence for the moderating role of creative self-efficacy in employees' pursuit of creative outcomes.

The present study also has implications for the leadership literature. Leaders' expectations for employee creativity are a key vehicle for promoting radical creativity. Whereas previous research has already related leader expectations to employee general creativity (e.g., Tierney et al., 2004, 2011), it has not been examined in relation to radical creativity. We believe that leader expectations are especially important for radical creativity, as employees need strong encouragement to engage in behaviors that are not closely linked to in-role performance (Ford, 1996). Moreover, we contribute to the leadership literature by showing that creativity expectations follow the goals that leaders set: leaders setting goals for progress and change create the perception that creativity is valued and expected. Whereas much research has (solely) examined how expectations regarding creativity lead to creative outcomes (following the Pygmalion effect; see Tierney & Farmer, 2004), less attention has been given to the origin of these expectations. We proposed and showed

that leader promotion focus goals are important for shaping employee perceptions of leader creativity expectations, and thereby in stimulating radical employee creativity. Indeed, as outlined by Shalley and Gilson (2004), if leaders value creativity, they have to set the appropriate goals that inspire employees to be creative. We contribute to the literature by showing that leader promotion focus goals are those appropriate goals, as they lead employees to perceive leader expectations regarding creativity.

In addition, we examined how goal-focused (leader promotion focus) and relational leadership (LMX) jointly affect employees. Most research has separately examined how leader behaviors and LMX affect employees (see also Piccolo & Colquitt, 2006). However, as outlined by Yukl (2010), leadership is about influencing others, and this process takes place within a social relation. Hence, to effectively examine how leaders influence employees, also the relationship between the leader and the employee should be taken into account. Thus, we add to the literature by showing that to understand how leaders can most effectively influence employees' cognitions, motivations, and behaviors, both the goals that leaders set as well as the quality of the dyadic exchange relationship they have with employees should be taken into account (see also Neubert et al., 2013; Zhang et al., 2012).

Finally, we advanced the regulatory focus literature, and especially research adopting an interpersonal approach to regulatory focus. Whereas most research has examined regulatory focus from a self-regulation or intrapersonal perspective (for meta-analyses see Gorman et al., 2012; Lanaj et al., 2012), we followed an emerging line of research that studied the interpersonal meaning of regulatory focus (see Kark & Van Dijk, 2007; Righetti et al., 2011; Said et al., 2015; Sue-Chan et al., 2012; Wu et al., 2008). We advanced this literature in three ways. First, we examined the mechanism by which leader promotion focus is related to employee creativity. Only

limited research is available about underlying processes (see Said et al., 2015), and we showed that leader creative expectations are a viable mediator between leader regulatory focus and employee creativity. Second, we showed that the effects of leader promotion focus are conditional upon LMX, thereby providing evidence for a boundary condition of the effects of promotion-focused leadership. Finally, leader regulatory focus has not yet been related to radical creativity, but only to general creativity (Said et al., 2015; Wu et al., 2008) and in-role job performance (Sue-Chan et al., 2012). While we did not find evidence for a direct relationship between leader promotion focus and radical creativity, we did show that promotion-focused leadership is indirectly related to radical creativity through employee perceptions of leader expectations regarding creative actions.

This research also has several implications for management, and it provides managers with useful insights about how to promote radical creativity among employees. Regardless the type of company, radical creativity may be a necessary or useful behavior to show. In “creative companies”, such as those traditionally found in the R&D-sector, radical ideas may be the reason for existence. For example in pharmaceutical companies, major breakthroughs in medicine-development may dictate whether companies will prosper. In companies that are seemingly less involved in creativity, for example hospitals, acts of radical employee creativity may be necessary to deal with today’s turbulent times of crisis and shifting markets. In most organizational settings, radical creativity can be valuable behavior, as it can provide breakthrough perspectives on how to effectively deal with common problems or difficulties. Hence, for both high-level managers as well as team leaders, it is valuable to understand how they can stimulate radical creativity among their employees.

When radical creative ideas are needed or useful, leaders should set and communicate goals related to change, progress, and advancement. Although the content of the goals may vary per company (as the concepts of progress and change are different for each company), we do advise managers and leaders to make these promotion-focused goals as clear as possible to employees, for example by setting specific goal-trajectories with time frames and evaluation moments (SMART). These promotion-focused goals symbolize to employees that creativity is expected and valued. As a consequence, employees are likely to overcome their preference for habitual behavior and maintaining the status quo, and will engage in radical creative behaviors. Managers should acknowledge, however, that these expectations will not work for all employees: for employees who clearly have no affinity with creative actions, communicating goals for progress and having expectations for creativity may have no effect. When radical creativity is necessary, supervisor may better devote their time and direct their goals to employees who do believe they are capable of being creative.

At the same time, leaders should pay attention to the relationship they have with their employees. As our results showed, employees are more likely to act upon the influence (instructions or guidance) of their leader when they have a high-quality relationship with their leader. So, leaders should establish and maintain good individual working relationships with their employees. Leaders can do this, for example, by having regular individual meetings with employees, and caring about and acting upon personal needs and wishes of employees. By doing so, managers can more effectively convey the goals that need to be pursued, and thereby increase their range of influence on the employees.

Limitations and future directions

While our research makes clear contributions to research and practice, there are also some limitations to our study that need to be addressed. First, we relied on Ford's (1996) theory of creative action, and focused on the role of leadership. However, we ignored other contextual factors, such as (creative) coworkers, situational (market) demands, or relevant resources for creativity (see also Madjar et al., 2011) that may also determine whether employees have receptivity beliefs regarding creativity. Moreover, Ford's theory also specifies knowledge, ability, and emotions as important factors that can determine whether individuals will choose creative over habitual actions. Future research could examine other contextual factors and individual differences that affect employees' engagement in radical creativity.

Second, we specifically examined employee radical creativity, but one might rightfully wonder whether our proposed model will also hold for incremental creativity. We assumed that incremental creativity is more often part of employees' role requirements. Hence, employees are less in need of explicit leader creativity expectations to make suggestions for minor adjustments (see also Ford, 1996; Madjar et al., 2011). For radical creativity, however, there is a larger threshold, and employees will only express groundbreaking ideas when they have clear expectations that such behavior is valued, needed, and rewarded. Therefore, we believe that receptivity beliefs (i.e., perceived leader creativity expectations) are especially important for radical creativity, and less so for incremental creativity (see also Ford, 1996). Moreover, as highlighted before, creative self-efficacy is especially important for divergent thinking related to major breakthroughs and less so for minor contributions (Mumford & Gustafson, 1988). Therefore, we believe that our model is more likely to hold for radical than for incremental creativity. However, as we did not

empirically examine the potential differential effects for those two distinct creativity types, future research could examine whether creativity expectations and creative self-efficacy are more strongly related to radical instead of incremental creativity.

Third, we collected data from multiple organizations and from different sectors. In some of these organizations, (radical) creativity may be more important than in others. Although creativity can be important in any organization (Shalley et al., 2000), it could be that employees in some companies benefit more from promotion-focused leadership. Especially companies where (radical) creativity is not common, leader promotion focus may depart from regular leadership displayed in the organization, and may therefore have stronger effects on employees' cognitions and behaviors. An avenue for future research is therefore to examine our proposed model in creative and less creative companies. Moreover, we used cross-sectional field data to examine our research model, which cannot provide clear causal ordering. It could also be that leaders expect more in terms of creativity from employees who showed radical creativity before. While our assumed causal ordering is plausible according to Ford's (1996) theory, separating the measurement of variables over time, or using an experimental design, would enhance clarity about causality.

We see two additional avenues for follow-up research. First, research could examine other mediators in the relationship between leader promotion focus and radical creativity. We focused on leader creative expectations, but there are other viable mediators. For example, employees' willingness to take risks may explain this relationship: willingness to take risks has been identified as an important determinant of radical creativity (and less so of incremental creativity; see Madjar et al., 2011), and promotion-focused goals related to progress and change may legitimize risk taking at work. Second, we specifically focused on leader promotion focus in the

present study, and did not consider leader prevention focus. It could, however, be the case that leader prevention focus is related to incremental creativity, given that employees will focus on responsibilities and details, making them more likely to find minor but important ways to improve work. Therefore, to fully capture how leader regulatory focus affects creativity, future studies should include both leader promotion and prevention focus, and examine their (potentially differential) effects on radical and incremental creativity.

Conclusion

Radical creativity may sometimes be necessary at work, for example to deal with uncertain economic times or to drastically alter the way to accomplish work. However, as a natural tendency, employees are more likely to stick to habitual behaviors or engage in incremental creativity leading to small changes, instead of generating completely new ideas or fundamentally changing frames of thought. Following Ford's (1996) framework, we gave the leader a prominent role in overcoming this natural tendency, and we proposed and showed that employees need clear leader expectations for creativity, and that these expectations are the likely result of promotion-focused leadership. Moreover, we showed that promotion focus goals more effectively shape expectations within a high LMX relationship between employee and supervisor. Finally, and following Ford's model and the interactionist approach to employee creativity, expectations and creative-self efficacy jointly predict radical creativity, as employees need to believe that they are capable of showing creative actions. Concluding, we proposed that leaders can have a prominent role in stimulating radical employee creativity, and we gave solid empirical evidence about how, why, and when leaders promote radical creativity among their employees.

CHAPTER 4

MAKING THINGS WORSE: HOW LEADER PREVENTION FOCUS LEADS KNOWLEDGE WORKERS INTO A DOWNWARD PERFORMANCE SPIRAL[6]

Using a novel preventive approach to performance management, we propose that leaders tend to adopt prevention-focused leadership behavior in response to suboptimal employee performance. However, we also propose that this approach may unintentionally lead knowledge workers into a downward performance spiral. As losses and failure become salient for suboptimally performing employees, supervisors will try to avoid these negative outcomes by exerting prevention-focused leadership that highlights minimal goals (duties, obligations, and responsibilities). While intended to prevent further performance deterioration, prevention-focused leadership actually motivates suboptimally performing knowledge workers to conform to their supervisor, thereby restricting creative capacity, and subsequently performing even poorer. Using a three-wave longitudinal study among PhD students and their principal advisors of a Dutch research university, we find empirical support for our proposed vicious circle. Implications of these results for theory and practice are discussed.

[6] This chapter is based on a manuscript under review (R&R) at the *Academy of Management Journal*

INTRODUCTION

A critical part of every manager's job is employee performance management. This often implies that managers have to deal with employees that perform relatively poorly (Mitchell & Kalb, 1982; O'Reilly & Weitz, 1980; Trahan & Steiner, 1994). The stakes in this particular management task are high, because not effectively dealing with poorly performing employees may not only result in further performance deterioration, but may also result in lowered motivation and effectiveness of others within the organization (Daley, 2008; Dobbins & Russell, 1986; O'Reilly & Weitz, 1980; Taggar & Neubert, 2008).

Research on managing poor performance has mainly taken a corrective approach. It focused on how supervisors may improve employee performance from substandard (performance that does not meet minimum requirements; Schniederjans & Stoeberl, 1983) to above standard, for example by giving feedback, training, or punishment (Brown & Mitchell, 1986; Dobbins, 1985; Gavin, Green, & Fairhurst, 1995; Ilgen, Mitchell & Fredrickson, 1981; Mitchell & Wood, 1980). We suggest that, rather than taking a corrective approach aimed at improving performance, leaders may also take a preventive approach to suboptimal employee performance aimed at preventing further performance deterioration. Indeed, the reality is that some employees do not have the ability or motivation to achieve outstanding levels of performance (Klehe & Anderson, 2007; Sonnentag & Frese, 2002). When employees perform at suboptimal levels, the primary motivation of leaders may therefore not be to stimulate higher performance, but rather to prevent deterioration in performance to unacceptable levels. Hence, a manager can decide to "save the situation" by urging suboptimally performing employees to strive for minimal goals – goals defined as "the lowest goal whose end state will still produce satisfaction" (Brendl & Higgins,

1996: 104) – to make sure that losses or failures resulting from substandard performance do not occur.

Setting or adopting minimal (and maximal) goals is comprehensively captured within regulatory focus theory (Brendl & Higgins, 1996; Higgins, 1997, 2000; Van Dijk & Kluger, 2011). This theory distinguishes two self-regulatory systems: a prevention-focused system that is concerned with fulfilling obligations and attaining minimal goals, and a promotion-focused system that is concerned with advancement and attaining maximal goals (Brendl & Higgins, 1996; Higgins, 1997; Liberman et al., 1999). In recent years, research has started to examine how leaders, by adopting regulatory goals in their leadership behavior, can influence their employees (Kark & Van Dijk, 2007; Sue-Chan et al., 2012; Wu et al., 2008). Prevention-focused leadership guides employees to avoid failure and pursue security and safety through the fulfillment of duties, obligations, and responsibilities (i.e., minimal goals), whereas promotion-focused leadership guides employees to pursue advancement through the achievement of gains and attainment of hopes, wishes, and aspirations (i.e., maximal goals). We propose that a common response of a manager to suboptimally performing employees is to adopt a leader prevention focus, to make sure that employees do their job up to a minimally acceptable level.

This managerial approach of adopting a leader prevention focus and setting minimal goals, however, may sometimes backfire and can have (unintended) deleterious consequences. This will be the case especially for knowledge workers, such as research and development (R&D) workers or scientists, whose key role is the creation or distribution of knowledge, and who usually work at non-routine tasks (Davenport, Jarvenpaa, & Beers, 1996). We propose that a leader prevention focus, which focuses on rules, obligations, and minimal standards, may lead to employee

conformity: to avoid errors and failures, employees will align their behaviors, ideas, and actions with those of the supervisor (Cialdini & Goldstein, 2004). In turn, this will reduce the likelihood that employees deviate from the status quo and will lead to low levels of creativity. Because creativity is a critical feature of knowledge work (Davenport et al., 1996; Dul, Ceylan, & Jaspers, 2011; Henard & McFadyen, 2008), we argue that this eventually will result in even poorer performance. Adopting a leader prevention focus in response to suboptimal employee performance may thus lead to a vicious circle (see also Masuch, 1985): prevention-focused leadership reinforces poor performance because it increases employee conformity and reduces creativity (see Figure 4.1).

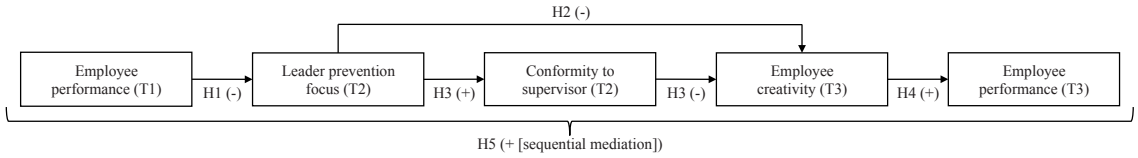
This study makes unique contributions to the literatures on performance management, leadership, knowledge workers, and vicious circles. First, research on managing poor or substandard performance has traditionally focused on improving performance from substandard to above standard (Brown & Mitchell, 1986; Dobbins, 1985; Gavin et al., 1995; Ilgen et al., 1981; Mitchell & Wood, 1980). Using a preventive approach, we extend this research by showing that setting minimal goals is an alternative strategy to deal with poor performers. Second, we contribute to a growing literature on leader regulatory focus (Kark & van Dijk, 2007; Sue-Chan et al., 2012, Wu et al, 2008). Whereas employee performance has been examined as a consequence of leader regulatory focus (Sue-Chan et al., 2012), we examine (poor) performance as both an antecedent and final consequence of leader regulatory focus. Third, we contribute to the literature on knowledge workers. We propose and show that adopting a leader prevention focus in response to suboptimal performance results in knowledge workers conforming to their supervisor, with negative effects for their levels of creativity and performance. Finally, we add to the literature on vicious

circles. While the presence of vicious circles in organizations has long been acknowledged (Masuch, 1985), not much research has examined the possibility that supervisors unintentionally create undesired outcomes (such as poor performance) by trying to avoid these outcomes (for an exception, see Manzoni & Barsoux' [1998] set-up-to-fail syndrome).

In the following, we introduce our proposed downward spiral, in which suboptimal performance leads to prevention-focused leadership and eventually to even poorer performance, by elaborating on each of the relations in our model (see Figure 4.1). To empirically test our proposed sequential mediation model, we conducted a multi-source longitudinal (three-wave) study among a specific type of knowledge workers and their supervisors, namely PhD students and their principal advisors.

FIGURE 4.1

Conceptual model



THEORY AND HYPOTHESES

Performance and leader prevention focus

Previous research has argued that, when faced with poorly performing employees, supervisors first determine the most probable cause of substandard employee performance (i.e., attribution), and then select an appropriate response (Dobbins, 1985; Dobbins & Russell, 1986; Green & Mitchell, 1979; Mitchell & Kalb, 1982; Mitchell & Wood, 1980). Depending on attributions, supervisor responses to poor performance can range from feedback, training, punishment, or in severe cases

to termination (in case of internal attributions) or can be directed at changing the situation or task (in case of external attributions). Regardless the specific actions, all these supervisor responses aim to correct employee behaviors, thereby hopefully improving subsequent performance to acceptable standards (Gavin et al., 1995; Ilgen et al., 1981; Mitchell & Kalb, 1982).

While previous research using a corrective approach has identified a variety of specific supervisor responses to substandard employee performance, an alternative but unexplored response to poor performance is taking a preventive approach. In contrast to a corrective approach, the goal of a preventive approach is to prevent suboptimal employee performance from becoming substandard. A preventive approach is focused on avoiding further performance deterioration by setting minimal goals and highlighting job duties, obligations, and responsibilities that need to be fulfilled to attain minimal goals. Because there will always be employees who are unable (due to lack of ability) or unwilling (due to lack of motivation) to reach the highest possible (maximal) goals in their job (Klehe & Anderson, 2007; Sonnentag & Frese, 2002), some employees are more likely to only meet minimum work requirements. For these employees, losses and failure become salient, and supervisors want to prevent that they actually fall below the minimally acceptable performance standard. We propose that Higgins' (1997) regulatory focus theory is a helpful framework to examine how leaders set or adopt minimal (and maximal) goals in directing their employees depending upon employees' prior performance.

Regulatory focus theory identifies two self-regulatory systems that regulate individuals' affect, cognitions, motivations, and behaviors: prevention and promotion focus (Higgins, 1997; Liberman et al., 1999). Both foci are motivational systems that guide goal pursuit, but they differ fundamentally in their goals and the strategies used

for attaining those goals. A prevention focus is concerned with minimal goals – non-losses, security, and oughts. In pursuing these goals, individuals are vigilant to only use those strategies that allow them to avoid potential negative outcomes. A promotion focus, in contrast, is concerned with maximal goals – gains, advancement, and ideals. In pursuing these goals, individuals are eager to use all possible strategies that allow them to approach potential positive outcomes (Brendl & Higgins, 1996; Higgins, 1997, 2000; Liberman et al., 1999; Van Dijk & Kluger, 2011).

Recently, it has been argued that leaders may adopt regulatory goals to influence the behavior and performance of their employees (Kark & Van Dijk, 2007; Sue-Chan et al., 2012; Wu et al., 2008). Leader prevention focus guides employees to avoid failure and pursue security by directing their attention to fulfilling their duties, obligations, and responsibilities. Prevention-focused leadership is thus concerned with minimal goals to prevent employees from falling below minimally acceptable performance levels, and to make sure that no failures arise. Vigilance is the most important strategy to attain these minimal goals, implying that employees should avoid actions that may lead to a deterioration of the situation. In contrast, leader promotion focus guides employees to pursue advancement by directing their attention to attaining gains, and by motivating them to be inspired by their hopes, wishes, and aspirations. Promotion-focused leadership is thus concerned with maximal goals: employees should do their work at a maximal level, and make sure that more successes are achieved. Promotion-focused supervisors signal eagerness, and employees should thus use every opportunity to progress. Thus far, leader regulatory focus has only been examined as an antecedent of performance, and research has shown that promotion-focused coaching leads to better results than prevention-focused coaching (Sue-Chan et al., 2012) and that leader promotion focus (but not

leader prevention focus) was positively associated with employee creativity (Wu et al., 2008). In the current investigation, we extend this line of research by arguing that leader prevention focus can also be a consequence of employee performance.

For two reasons we propose that supervisors will adopt a leader prevention focus when directing employees who perform at suboptimal levels. First, suboptimal performance makes possible failure salient, which could be costly to the supervisor and the organization. According to regulatory focus theory, this should trigger a (situationally induced) leader prevention focus, and should lead to a greater concern for employee duties, obligations, and responsibilities. Good performance, on the other hand, should result in less prevention-focused leadership, because possible losses and failures are less salient and less likely to occur. Second, due to lack of employee ability or motivation or due to situational constraints, it is not always possible to improve suboptimal employee performance. In these cases, corrective action aimed at improving employee performance may not work, and supervisors may opt instead to adapt performance goals: they will make sure that employees focus on their responsibilities, obligations, and duties of their work, and that their performance will not further deteriorate and fall below the minimum requirements in order to avoid costly failure. The closer employees approach minimal performance standards, the more strongly the prevention focus of leaders will be in their managerial actions towards these employees. Therefore, the first hypothesis is:

Hypothesis 1: Employee performance is negatively related to leader prevention focus.

Leader prevention focus, conformity to supervisor, and employee creativity

The purpose of prevention-focused leadership is to make sure that employees at least carry out their job at a minimally acceptable standard and avert failure, by having them focus on their duties, obligations, and responsibilities. Although such a leadership approach may potentially be effective (see Sue-Chan et al., 2012), there are compelling theoretical reasons why it may undermine employee creativity: "the production of novel and useful ideas in any domain" (Amabile et al., 1996: 1155).

Prevention-focused leadership communicates to employees the need for stability and security. In trying to avoid failures, employees are mainly motivated to avoid any deteriorations of the situation. Employees experiencing this kind of leadership are vigilant in the strategies they use, and are careful to avoid any mismatches to desired end-states. Employees thereby conservatively stay away from any creative courses of actions that might result in (negative) changes to the status quo, and rather choose to perform risk-avoidant, non-creative, repetitive or habitual behaviors (Ford, 1996; Kark & Van Dijk, 2007). Driven by responsibilities, duties, and obligations, employees experiencing a leader prevention focus will be risk-averse, will be more conservative in their thinking, and are likely to do their work in a correct instead of a different manner (Kark & Van Dijk, 2007; Wu et al., 2008). Furthermore, prevention-focused supervisors are likely to closely monitor the behavior of suboptimally performing employees, to ensure that they in fact do perform their duties and obligations at a minimally required level, and such close monitoring has been found to be detrimental to employee creativity (George & Zhou, 2001; Rietzschel,

Slijkhuis, & Van Yperen, 2014). Consequently, prevention-focused leadership is likely to be negatively related to creativity[7]. Therefore, the second hypothesis is:

Hypothesis 2: Leader prevention focus is negatively related to employee creativity.

We also examine a potential mechanism, employee conformity, that links leader prevention focus to employee creativity. We propose that, when experiencing a leader prevention focus as a result of low performance, employees will conform to their supervisor in an attempt to avoid making errors and risking a bad evaluation. Conformity to supervisor implies that employees align their behaviors, ideas, and actions with those of the supervisor (see Cialdini & Goldstein, 2004; Cialdini & Trost, 1998), thereby closely following his/her suggestions and adopting his/her ideas. By conforming, employees intend to minimize the chances of additional failure, losses, and punishments, which is exactly the purpose of leader prevention focus. Indeed, employees experiencing prevention-focused leadership likely seek systematic approval from the leaders (Wu et al., 2008), and such approval can be obtained by conforming to the behaviors and ideas of the leader.

Furthermore, ample research has examined the relationship between conformity and creativity, although none specifically deals with employees'

[7] Despite these compelling reasons to expect a negative relation between leader prevention focus and employee creativity, direct evidence for this relation is missing. The only study that examined this relationship (Wu et al., 2008) found that, whereas perceptions of leader promotion focus had positive effects on employee creativity, perceptions of leader prevention focus had no significant relation with employee creativity in a high-tech division of a Chinese ceramic manufacturing firm. This null-finding may be due to Wu et al.'s (2008) sample and operationalization of leader prevention focus, issues we return to in the Discussion section.

conformity to their supervisor. With few exceptions (e.g., Goncalo & Duguid, 2012), researchers have argued and found the relationship between conformity and creativity to be negative. For example, Allen and Levine (1968) argued that conformity results in a heightened concern with rejection and acceptance by the group, instead of a motivation aimed at creative problem solving. Moreover, they argued that conformers possess traits such as lack of spontaneity and dependence towards others, which negatively affect creative thinking. Madjar and colleagues (2011) argued and found that people's disposition towards conformity discouraged them to engage in radical creativity and instead led to routine performance and incremental adjustments. Chirumbolo, Livi, Mannetti, Pierro, and Kruglanski (2004) argued and found that premature consensus and conformity pressure in groups negatively affected creativity. Finally, Goncalo and Staw (2006) studied the effect of individualism versus collectivism on group creativity and found that collectivism was associated with conformity, which in turn was associated with less creative problem solving.

In general, therefore, conformity will be negatively associated with creativity. Moreover, we propose that this is especially the case for knowledge workers. In the process of creating new knowledge and ideas, conforming to the supervisor will be detrimental for creativity, because it implies following the behaviors and actions of the supervisor, resulting in like-mindedness. Conformity also entails a lack of self-direction and autonomy, which are critical for knowledge workers' ability to complete their job effectively (Davenport et al., 1996; Janz, Colquitt, & Noe, 1997) and manage themselves (Drucker, 1999). In other words, conformity to the supervisor will reduce knowledge workers' ability to generate new knowledge and ideas, restrict their autonomous creative capacities, and thus reduce their creativity. Concluding, we

expect that leader prevention focus will result in employees' conforming to their supervisor, which then results in less creativity:

Hypothesis 3: Conformity to supervisor mediates the negative relationship between leader prevention focus and employee creativity.

Creativity and performance of knowledge workers

Knowledge workers are regarded as the main source of creative ideas (Dul et al., 2011) and innovations (Davenport, Thomas, & Cantrell, 2002) within organizations. R&D teams, as typical teams composed of knowledge workers, are in fact seen as the fundamental units in organizations that generate creative ideas and turn these ideas into products or processes (Chen, Chang, & Hung, 2008; Wang & Horng, 2002). Hence, creativity is a critical part of knowledge workers' job, and their creative capacity can be seen as an important determinant of their overall performance. Indeed, empirical results in R&D settings of the relationship between creativity and performance confirm this. For example, Wang, Wu, and Horng (1999) measured R&D employees' creative thinking ability, and found that it was positively correlated with R&D employees' objective productivity in the form of first-authored technical reports. Wang and Horng (2002) found that R&D employees scoring high on creative thinking ability were more productive in terms of service projects completed.

Turning to our current university sample, where PhD students are the knowledge workers, we believe that creativity is essential for scientific performance. PhD students have to come up with new ideas and research models for papers, have to use and implement new research methods in their work, and have to creatively deal with reviewer comments when handling paper revisions. Hence, the nature and outcomes of PhD students' work seem compatible with creative effort. Concluding,

we expect that knowledge workers' creativity can enhance their performance. Therefore, the fourth hypothesis is:

Hypothesis 4: Employee creativity is positively related to employee performance.

The sequential mediation model

We finally propose that prevention-focused leadership in response to suboptimally performing employees may work out negatively for knowledge workers. In the words of Masuch (1985: 15): "The emerging picture begins to resemble a vicious circle. By trying to avoid undesired outcomes, human actors actually create these outcomes". A supervisor who wants to avoid knowledge workers from performing worse by adopting a leader prevention focus, actually creates poorer performance. Although a leader prevention focus might be positively related to performance effectiveness for assembly line employees of a production factory (see Sue-Chan et al., 2012, Study 2), we argue that these results do not generalize to a setting of knowledge workers. As a consequence of prevention-focused leadership, we propose that knowledge workers will conform to the supervisor, thereby restricting themselves in their creative capacities, and subsequently show lower job performance. Therefore, the fifth and final hypothesis is:

Hypothesis 5: Suboptimal employee performance results in subsequent lower employee performance, and this relationship is sequentially mediated by leader prevention focus, employee conformity to supervisor, and employee creativity.

Alternative models

Leader prevention focus is the focal construct in our sequential mediation model. However, we also consider and empirically test two alternative models in

which leader promotion focus and leader-member exchange (LMX) function as critical mediators between prior employee performance and subsequent employee creativity and performance. We argue that, although plausible, these alternative models are less likely to hold empirically.

The first alternative model is a positive spiral in which high performance may result in leader promotion focus, which then results in less conformity, more creativity, and better performance. It is possible that, as a result of high employee performance, a supervisor will motivate employees to strive for even more success and positive outcomes, and thus adopt promotion-focused leadership. Moreover, in field settings, leader promotion focus has been shown to positively relate to employee creativity (Wu et al., 2008) and performance (Sue-Chan et al., 2012). However, for two reasons we expect that this alternative model is unlikely to hold. First, given that people are loss averse and that potential losses receive more weight than potential gains (Kahneman & Tversky, 1979), supervisors in general devote more attention to poor than to good performers. Thus, good employee performance is not likely to strongly affect leader behavior or result in a leader promotion focus. Second, whereas supervisor feedback on poor performance often is very specific, adequate or good performers in general receive less specific (e.g., "keep up the good work") and less frequent feedback (Ilgen, Fisher, & Taylor, 1979; Larson, 1986). Given that more specific feedback is more likely to affect employee behavior (Davis, Carson, Ammeter, & Treadway, 2005; Goodman, Wood, & Hendrickx, 2004; Ilgen et al., 1981), a leader's response to good performance will probably have a smaller effect on employee behavior.

The second alternative model incorporates leader-member exchange (LMX) as main explanatory variable. LMX theory posits that through a role-making and

exchange process, supervisors and employees establish different quality relationships with each other (Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995). It is possible that a supervisor will build higher-quality relationships with good performers than with poor performers (see Ilgen et al., 1981, for evidence). Furthermore, research has found that LMX positively associates with employee creativity (Rosing et al., 2011; Tierney et al., 1999) and performance (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Wayne, Shore, & Liden, 1997). However, we expect that LMX may be a less potent predictor of creativity than leader prevention focus: leader prevention focus is goal-directed and motivates individuals to alter behaviors, whereas LMX is a relational construct that lacks clear guidance towards behavior such as creativity (see Rosing et al., 2011). Thus, while LMX as relational construct and leader prevention focus as goal-directed leadership might co-exist, we expect that LMX will show weaker relations with employee creativity than leader prevention focus.

METHODS

Sample and procedure

Data was collected among PhD students and their principal advisors from a large research university within the Netherlands. After receiving formal approval of the directors of the nine faculties of the university to conduct this research, we received contact details of the respondents. To test our hypotheses, we used a three-wave longitudinal design with online surveys. The first wave of questionnaires (T1) was administered in May 2012, the second wave (T2) in November 2012, and the third and final wave (T3) in May 2013. Per wave, an invitation email was sent, followed by two or three reminders to those respondents that had not yet completed the questionnaire. For the purpose of this study we used performance ratings of PhD students at T1 and T3, creativity ratings at T3 (all obtained from principal advisors),

and perceptions of leader prevention and promotion focus, experiences of conformity to supervisor, and LMX ratings at T2 (obtained from PhD students).

Table 4.1 shows the response details per wave. At T1, we approached all PhD students of the university for whom we had received contact details. At T2 and T3, we approached those PhD students that participated at T1. At T1 and T2, we contacted principal advisors from whom one or more PhD student completed the first questionnaire. At T3, only principal advisors who participated at T1 and/or T2 were approached. Respondents who explicitly indicated that they were unable or unwilling to participate were not contacted again.

TABLE 4.1

Response details per wave

	PhD students		Principal advisors		
Wave	# Approached	# Participated	# Approached	# Participated	# Ratings
T1 (May 2012)	1684	521 (30.94%)	306	144 (47.06%)	237
T2 (November 2012)	521	379 (72.74%)	296	157 (53.04%)	247
T3 (May 2013)	519	330 (63.58%)	175	133 (76.00%)	207

We were able to match 104 PhD students who completed their T2 questionnaire with 77 principal advisors who gave ratings of these PhD students at both T1 and T3. Demographic variables were measured at T1. We used these 104 PhD students and 77 principal advisors for further analysis. Of these 104 PhD students, 46 were male and 58 female. Forty-six had the Dutch nationality, whereas 58 were non-Dutch. The average age was 29.87 (*SD* = 6.81, *range* = 24 to 60), and PhD students had been pursuing their PhD (tenure) for an average of 19.33 months (*SD* = 13.49; in the Netherlands, a PhD-trajectory takes 3 or 4 years). Of the 77 principal advisors, 51 were male and 26 female. Sixty had the Dutch nationality, whereas 17 were non-Dutch. The average age was 49.05 years (*SD* = 7.72, *range* = 34 to 64; two advisors did not report their age). On average, the principal advisors had

been a full professor for 5.64 years (*SD* = 5.67, *range* = 0 to 21). A principal advisor on average supervised 1.35 PhD student (*SD* = .72), ranging between 1 and 5.

Measures

All measures were in English and used five-point Likert scales, ranging from strongly disagree (1) to strongly agree (5). Principal advisors rated PhD students' performance at T1 and T3, and creativity at T3. Supervisor ratings have often been used in previous research to measure subordinates' performance (e.g., Wayne et al., 1997) and creativity (e.g., George & Zhou, 2001; Oldham & Cummings, 1996; Tierney et al., 1999). The other data was collected among PhD students at T2.

Supervisor-rated variables. We measured performance using a three-item scale, adapted from Wayne and colleagues (1997). The three items were: '[Name PhD student] performs his/her duties as I like to see them performed', '[Name PhD student] performs his/her duties in an effective manner', and '[Name PhD student] generally provides good performance in his/her work'. Cronbach's alpha was .90 for T1, and .94 for T3. For measuring creativity, we used the nine-item scale of Tierney and colleagues (1999). Example items were: '[Name PhD student] demonstrated originality in his/her work' and '[Name PhD student] tried out new ideas and approaches to problems'. Cronbach's alpha was .95 for T3.

Employee-rated variables. We measured leader prevention and promotion focus (T2) with two four-item scales, adapted from the regulatory focus scale of Wallace and colleagues (2009; see also Wallace & Chen, 2006). All items started with 'My supervisor wants me to primarily focus on'. The four items for leader prevention focus were 'avoiding negative outcomes at work', 'avoiding failure at work', 'my duties and responsibilities when working', and 'fulfilling my work as correct as possible'. Cronbach's alpha was .75. The four items for leader promotion focus were

'achieving positive outcomes at work, 'achieving success at work', 'my aspirations and ideals when working', and 'fulfilling my work as successful as possible'. Cronbach's alpha was .71.

Conformity to supervisor (T2) was measured with a seven-item scale, based on the conformity scale of Mehrabian and Stefl (1995). Example items were: 'In my work, I often rely on, and act upon, the advice of my supervisor', and 'Generally, I'd rather give in and go along with my supervisor for the sake of peace than struggle to have my way'. Cronbach's alpha was .75.

Leader-member exchange (T2) was measured using the 11-item scale of Liden and Maslyn (1998). Example items were: 'I do work for my supervisor that goes beyond what is specified in my job description' and 'My supervisor is a lot of fun to work with'. Cronbach's alpha was .79.

Selective non-response and attrition

To address issues of selective non-response and attrition, which may potentially bias results, we compared contacted individuals who did and did not participate in this research, and respondents for whom complete versus partial data is available. In terms of non-response in the first wave of data-collection among PhD students, we have no (demographic) data on contacted individuals who did not participate, but we could examine whether participation differed among the different faculties. Because of large differences in the number of (contacted) PhD students per faculty (*range* = 7 to 610), and the number of PhD students that responded at T1 per faculty (*range* = 1 to 184), we regrouped faculties into four categories: Alpha Sciences (the Faculties of Arts, Law, Philosophy, and Theology; 172 contacted, response rate 33.14%), Beta Sciences (the Faculty of Mathematics and Natural Sciences; 604 contacted, response rate 30.46%), Gamma Sciences (the Faculties of

Behavioral and Social Sciences, Economics and Business, and Spatial Sciences; 298 contacted, response rate 33.89%), and Medical Sciences (the Faculty of Medical Sciences; 610 contacted, response rate 28.03%). There was no significant difference in the proportion of respondents per category ($\chi^2[3] = 3.94$), and the average response rate was 30.94% (8 PhD students did not report their faculty, but are included in this average response rate).

To test for selective attrition, we examined whether respondents in the final sample differed from those who participated in previous waves but are not part of the final sample. Only three variables significantly differed in the final sample compared to a previous wave. T1 performance of PhD students in the final sample ($M = 4.01$, $SD = .82$) was higher than the performance of PhD students who participated at T1 but were not included in the final sample ($M = 3.75$, $SD = .92$; $t = 2.29$, $p \leq .05$). Also, PhD students in the final sample had a lower T1 tenure ($M = 19.33$, $SD = 13.49$) compared to PhD students who participated at T1 but dropped out later ($M = 23.24$, $SD = 15.72$; $t = 2.33$, $p \leq .05$). Additionally, the distribution of supervisor gender was different ($t = 2.41$, $p \leq .05$), and results showed that there were more female principal advisors in the final sample ($M = 1.34$, $SD = .48$), compared to those not in the final sample ($M = 1.16$, $SD = .37$). Our final sample thus is somewhat biased towards better performing and lower tenured PhD students, and towards female supervisors, and results should be interpreted with these finding in mind.

Convergent and divergent validity

To assess the convergent and divergent validities for the focal constructs, we used Mplus 7.11 (Muthén & Muthén, 1998-2012) to estimate various measurement models. We assessed model fit by the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the

Standardized Root Mean Square Residual (SRMR). Measurement models were compared by means of χ^2-differences. We examined our baseline model by correlating the focal constructs as first-order factors with all items loading on their respective factors without cross-loadings (see Table 4.2).

The baseline model provided a good fit to the data (χ^2[289] = 382.17; RMSEA = .06 [90%: .04 to .07]; CFI = .95; TLI =.94; SRMR = .07), and all alternative models provided a worse fit than the baseline model. These results indicate that the baseline measurement model has an acceptable level of convergent and divergent validity.

Data considerations and analytic approach

The data has a multilevel structure in which PhD students are nested within principal advisors, and principal advisors within faculties, suggesting a multilevel model with random intercepts for a second (i.e., principal advisor) and third (i.e., faculty) level. However, we came to the conclusion that such a multilevel model would not do justice to the data.

First, the average number of PhD students per principal advisor is low (*M* = 1.35, *SD* = 0.72, *range* = 1 to 5). This makes it difficult to distinguish PhD student-level variation from principal advisor-level variation, meaning that controlling for the principal advisor is ineffective (Hox, 2002). We therefore decided to ignore nesting within supervisors. Second, on a faculty level, although the average number of PhD students per faculty is acceptable (*M* = 13.00, *SD* = 9.57), the number of faculties is low (*N* = 8; for one of the nine faculties we had no respondents with complete data) for consideration of multilevel analysis with random intercepts. This makes it more appropriate to control for faculty by including dummy variables for faculty (Snijders & Bosker, 1999), and we decided to use this approach. Because the range of the number of PhD students per faculty is wide (*range* = 2 to 30), which could skew and

TABLE 4.2

Confirmatory factor analyses

Factor structure	χ^2	df	RMSEA (90% CI)	CFI	TLI	SRMR	$\Delta\chi^2$ (Δdf)
Baseline model: five factors	382.17	289	.06 (.04-.07)	.95	.94	.07	
Model 1: one factor	846.80	299	.13 (.12-.14)	.70	.67	.11	464.63(10)***
Model 2: four factors	469.62	293	.08 (.06-.09)	.90	.89	.08	87.45(4)***
Model 3: four factors	547.71	293	.09 (.08-.10)	.86	.84	.09	165.54(4)***
Model 4: four factors	527.26	293	.09 (.08-.10)	.87	.86	.08	145.09(4)***
Model 5: three factors	645.82	296	.11 (.10-.12)	.81	.79	.08	263.65(7)***
Model 6: four factors	486.70	293	.08 (.07-.09)	.89	.88	.09	104.53(4)***

Notes. $N = 104$. $\Delta\chi^2$ and Δdf refer to the differences with the baseline model. Changes relative to baseline model: Model 1: all variables on one factor; Model 2: performance (T1) and performance (T3) on one factor; Model 3: performance (T1) and creativity (T3) on one factor; Model 4: creativity (T3) and performance (T3) on one factor; Model 5: performance (T1), creativity (T3), and performance (T3) on one factor; Model 6: leader prevention focus (T2) and conformity to supervisor (T2) on one factor. *** $p \leq .001$.

bias results towards faculties with larger number of students (Snijders & Bosker, 1999), we decided to categorize the faculties into the previously used four categories: Alpha Sciences ($N = 23$), Beta Sciences ($N = 30$), Gamma Sciences ($N = 26$), and Medical Sciences ($N = 25$). We included these regrouped faculties as dummies in our estimation model.

RESULTS

Descriptive statistics and intercorrelations

Means, standard deviations and zero-order correlations between all study variables are reported in Table 4.3. In line with expectations, performance (T1) was negatively related to leader prevention focus (T2) ($r = -.34$, $p \leq .001$), leader prevention focus (T2) was negatively related to creativity (T3) ($r = -.37$, $p \leq .001$) and positively to conformity to supervisor (T2) ($r = .25$, $p \leq .01$), conformity to supervisor (T2) was negatively related to creativity (T3) ($r = -.33$, $p \leq .001$), and creativity (T3) was positively related to performance (T3) ($r = .76$, $p \leq .001$). Results also showed that leader promotion focus (T2) was positively related to leader prevention focus (T2) ($r = .31$, $p \leq .001$) and LMX (T2) ($r = .28$, $p \leq .01$), and surprisingly negatively to creativity (T3), albeit marginally so ($r = -.17$, $p \leq .10$).

Control variables

For two reasons, we included gender, age, nationality and PhD tenure as control variables. First, previous research has indicated that gender (e.g., Baer & Kaufman, 2008), age (e.g., Ruth & Birren, 1985), nationality (e.g., Erez & Nouri, 2010), and tenure (e.g., Tierney & Farmer, 2002) may be related to creativity. Second, following Becker (2005), our analyses (see Table 4.3) showed that these control variables are correlated with one or more of the focal variables, thus justifying

TABLE 4.3

Descriptive statistics and intercorrelations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender (1 = male, 2 = female)	1.56	0.50	-													
2. Age (in years)	29.87	6.81	-.08	-												
3. Nationality (1 = Dutch, 2 = non-Dutch)	1.56	0.50	-.13	-.08	-											
4. PhD tenure (in months)	19.33	13.49	-.03	-.04	-.08	-										
5. Faculty (0 = other, 1 = Beta)	0.29	0.46	-.24**	-.17†	.31***	.10	-									
6. Faculty (0 = other, 1 = Gamma)	0.25	0.44	.20*	.27**	-.16	-.09	-.37***	-								
7. Faculty (0 = other, 1 = Medical)	0.24	0.43	-.04	-.05	-.09	-.02	-.36***	-.32***	-							
8. Performance (T1)	4.01	0.82	-.03	-.39***	-.05	.01	.09	-.15	-.14	(.90)						
9. Leader prevention focus (T2)	3.19	0.66	.02	.09	.41***	-.09	.09	-.24**	.12	-.34***	(.75)					
10. Conformity to supervisor (T2)	3.09	0.58	-.04	.14	.01	-.12	.09	-.09	.08	-.24**	.25**	(.75)				
11. Leader promotion focus (T2)	3.76	0.54	-.01	.02	.29**	-.06	-.03	-.11	.01	-.09	.31***	.14	(.71)			
12. Leader-member exchange (T2)	3.77	0.49	-.08	-.11	-.08	-.01	-.04	.01	.11	.05	-.14	.08	.28**	(.79)		
13. Creativity (T3)	3.51	0.81	-.20*	-.22*	-.16	.25**	.25**	-.12	-.11	.54***	-.37***	-.33***	-.17†	.04	(.95)	
14. Performance (T3)	3.93	1.01	-.04	-.38***	-.16	.12	.18†	-.23*	-.07	.71***	-.38***	-.30**	-.12	.16	.76***	(.94)

Notes. $N = 104$. Cronbach's Alphas between parentheses on the diagonal. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

inclusion as control variables. The conclusions based on our results remained unaltered when excluding some or all control variables.

Hypotheses testing

To test hypotheses, we used Mplus 7.11's maximum likelihood estimation procedure to estimate a bootstrapped sequential mediation regression path model. Bootstrapped estimates for the direct and indirect effects are reported in Table 4.4. In every regression model, we controlled for faculty (dummies) and the control variables. We examined Hypothesis 1 by regressing leader prevention focus (T2) on performance (T1). Supporting Hypothesis 1, we found that performance (T1) was negatively related to leader prevention focus (T2) (B = -.27, $p \leq .01$). To test Hypothesis 2, we regressed creativity (T3) on leader prevention focus (T2). Results showed that leader prevention focus (T2) was negatively related to creativity (T3) (B = -.39, $p \leq .001$), thereby supporting Hypothesis 2.

To test Hypothesis 3, we first regressed conformity to supervisor (T2) on leader prevention focus (T2). Then, we regressed creativity (T3) on conformity to supervisor (T2) while also controlling for leader prevention focus (T2). To interpret the indirect effect of leader prevention focus (T2) via conformity to supervisor (T2) on creativity (T3), we estimated bias corrected bootstrapped confidence intervals (see MacKinnon, Lockwood, & Williams, 2004). Results first showed that leader prevention focus (T2) positively predicted conformity to supervisor (T2) (B = .23, $p \leq$ .05). Conformity to supervisor (T2) was negatively related to creativity (T3) (B = -.38, $p \leq .01$), but the negative effect of leader prevention focus (T2) on creativity (T3) remained significant (B = -.31, $p \leq .01$) when controlling for conformity. Finally, conformity to supervisor (T2) mediated the negative relationship between leader prevention focus (T2) and creativity (T3): *indirect effect* = -.09 (95% confidence

TABLE 4.4

Bootstrapped unstandardized regression coefficients for direct and indirect effects

	Bootstrapped direct effects				
Variable	Leader prevention focus (T2) (Hypothesis 1)	Creativity (T3) (Hypothesis 2)	Conformity to supervisor (T2) (Hypothesis 3)	Creativity (T3) (Hypothesis 3)	Performance (T3) (Hypothesis 4)
Constant	3.27*** (.65)	5.77*** (.62)	2.27*** (.42)	6.62*** (.71)	1.73** (.65)
Gender (1 = male, 2 = female)	.14 (.12)	-.26 (.16)	-.01 (.12)	-.26† (.15)	.19 (.13)
Age (in years)	.01 (.01)	-.02 (.01)	.01 (.01)	-.01 (.02)	-.03** (.01)
Nationality (1 = Dutch, 2 = Non-Dutch)	.49*** (.12)	-.20 (.16)	-.16 (.14)	-.26† (.16)	-.12 (.13)
PhD tenure (in months)	-.00 (.00)	.01* (.01)	-.01 (.00)	.01† (.01)	-.01 (.01)
Faculty (0 = other, 1 = Beta)	-.09 (.18)	.35 (.21)	.25 (.18)	.44* (.20)	-.21 (.19)
Faculty (0 = other, 1 = Gamma)	-.46* (.19)	-.13 (.20)	.02 (.17)	-.12 (.19)	-.43* (.20)
Faculty (0 = other, 1 = Medical)	-.01 (.18)	-.08 (.20)	.16 (.18)	-.02 (.19)	-.22 (.20)
Performance (T1)	-.27** (.08)				
Leader prevention focus (T2)		-.39*** (.12)	.23* (.10)	-.31** (.11)	
Conformity to supervisor (T2)				-.38** (.12)	
Creativity (T3)					.93*** (.09)
R^2	.35*** (.08)	.31*** (.08)	.12* (.06)	.38*** (.08)	.67*** (.05)
	Bootstrapped indirect effects				
					Estimate (95% CI)
Leader prevention focus (T2) → Conformity to supervisor (T2) → Creativity (T3) (Hypothesis 3)					-.09* (-.21 to -.01)
Performance (T1) → Leader prevention focus (T2) → Conformity to supervisor (T2) → Creativity (T3) → Performance (T3) (Hypothesis 5)					.01* (.00 to .04)

Notes. $N = 104$. Standard errors between parentheses. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$. Bootstrapped in 10000 iterations.

interval [-.21; -.01], $p \leq .05$). These results supported Hypothesis 3, and conformity to supervisor partially mediated the effect of leader prevention focus on creativity.

To examine Hypothesis 4, we regressed performance (T3) on creativity (T3). Creativity (T3) was found to significantly predict performance (T3) ($B = .93$ $p \leq .001$), supporting Hypothesis 4. To test our proposed vicious circle (Hypothesis 5), we estimated bias corrected bootstrapped confidence intervals to examine the indirect effect of performance (T1) on performance (T3) as sequentially mediated by leader prevention focus (T2), conformity to supervisor (T2), and creativity (T3). Note that to assess this multi-stage mediation effect it is necessary in each step to control for all predictors of previous steps. For example, the effect of creativity (T3) on performance (T3) is assessed while simultaneously controlling for performance (T1), leader prevention focus (T2), and conformity to supervisor (T2). In line with our expectations and supporting Hypothesis 5, performance (T1) had an indirect effect on performance (T3), and this indirect effect was sequentially mediated by leader prevention focus (T2), conformity to supervisor (T2), and creativity (T3): *indirect effect* = 0.01 (95% confidence interval [0.00; 0.04], $p \leq .05$). These results imply the presence of a vicious circle, in which supervisors' prevention-focused response to suboptimal performance of PhD students actually further undermined performance, by stimulating conformity to supervisor and reducing creativity.

Alternative model testing

Although results supported our predictions, it is important to consider the two alternative models specified before. To test these alternative models, we ran our sequential mediation analyses again, and included leader promotion focus and LMX as parallel mediators in addition to leader prevention focus. Results showed that when additionally including leader promotion focus and LMX, only the mediation model

with leader prevention focus was significant (*indirect effect* = .02, 95% confidence interval [0.00, 0.07], $p \leq .05$), whereas those with leader promotion focus (*indirect effect* = .00, 95% confidence interval [-0.00, 0.03]) and LMX (*indirect effect* = -.00, 95% confidence interval [-0.02, 0.00]) were not. There was no significant relationship between performance (T1) and leader promotion focus (T2) (B = -.06) and between performance (T1) and LMX (T2) (B = .02). Moreover, the relationship between leader promotion focus (T2) and conformity to supervisor (T2) (B = .08), creativity (T3) (B = -.02), and performance (T3) (B = -.04) were not significant. The relationship between LMX (T2) and conformity to supervisor (T2) (B = .11) and creativity (T3) (B = -.05) were not significant either. LMX (T2) did have a marginally significant positive relationship with performance (T3) in the final regression model (B = .26, $p \leq$ .10). Concluding, alternative explanations with LMX and leader promotion focus do not seem feasible in the present data.

DISCUSSION

Summary and discussion of results

Using a novel preventive approach to performance management, our results showed that past suboptimal performance elicits a leader prevention focus that may unintentionally lead knowledge workers (in this case PhD students) into a vicious circle. While intended to prevent further deterioration of performance by highlighting minimal goals such as duties and obligations, prevention-focused leadership of supervisors may actually result in even lower performance among knowledge workers. This happens because knowledge workers tend to conform to their supervisor when experiencing this kind of leadership, which restricts them in their creative capacity. Given that creativity is an important part of knowledge workers' job, a decrease in creativity results in lowered performance. Results also showed that

alternative models with leader promotion focus and LMX as focal constructs were not supported in the present data. Thus, among our sample of knowledge workers, results indicate 1) that supervisors tend to respond to suboptimally performing employees by adopting a leader prevention focus and 2) that such a leader prevention focus undermines subsequent performance because it increases conformity and limits creativity.

While we find strong empirical evidence for the role of leader prevention focus in a vicious circle of suboptimal performance, our results also raise the question why our findings diverge from those of Wu et al. (2008) and Sue-Chan et al. (2012). We found negative effects of leader prevention focus on employee creativity and performance (and no effect of leader promotion focus), whereas Wu et al. (2008) found a null-effect of leader prevention focus and a positive effect of leader promotion focus on employee creativity, and Sue-Chan et al. (2012) found positive effects of both coach promotion focus and prevention focus on employee performance (and the effects of promotion focus were stronger). We believe that results diverge (partly) because of differences in samples. Whereas our study was conducted among knowledge workers (PhD students) in the Netherlands, for whom creativity is desired and necessary (Davenport et al., 1996), Wu et al.'s (2008) study was conducted in a high-tech division of a Chinese ceramic manufacturing firm (but seemingly not among knowledge workers), and Sue-Chan et al. (2012) conducted their study among assembly line workers. As PhD students and other knowledge workers are generally highly intrinsically motivated (Mumford et al., 2002), additional encouragement through promotion-focused leadership might not have strong effects. Leader promotion focus may be more effective in other types of jobs, for which high intrinsic motivation may not be a given. Similarly, leader prevention focus will undermine

performance for jobs that require creativity (because of conformity), but may even stimulate performance in jobs that require vigilance, prevention of errors, and conformity (see results of Sue-Chan et al., 2012). Finally, it is worth mentioning that the measurement of leader prevention focus in the Wu et al. (2008) study focused more on the relation between a supervisor and higher management than on how leaders direct their subordinates. This may be another reason why no effects of leader prevention focus on employee creativity were observed in that study.

Theoretical and managerial implications

Our research has theoretical implications for the literature on performance management, leadership, vicious circles, and knowledge workers. Starting with the performance management literature, we believe that leader prevention focus has considerable potential in explaining how supervisors react to suboptimal performing employees. Previous research on performance management has mainly taken a corrective approach to poor performance, and has examined how supervisors can change the performance of employees by means of corrective actions (Dobbins, 1985; Gavin et al., 1995; Ilgen et al., 1981; Mitchell & Kalb, 1982; Mitchell & Wood, 1980). However, we believe that improving performance is not always the goal of the supervisor, and is sometimes not even possible. Instead of trying to improve performance of poorly performing individuals, supervisors might in some cases try to avoid additional failure by showing prevention-focused leadership. Poor performance makes costly losses and failure salient, which according to regulatory focus theory should trigger a leader prevention focus that is concerned with minimal goals such as duties, obligations, and responsibilities (Brendl & Higgins, 1996; Higgins, 1997; Kark & Van Dijk, 2007). We thus complement the literature on performance management by adding a new viable theoretical perspective, namely a preventive approach to

employee performance management. In practice, we expect that managers will combine our proposed preventive approach (e.g., "do not fail by focusing on your responsibilities") with a corrective action (e.g., "and improve your performance by taking this training").

Second, our research provides new insights for the leadership literature. Since Kark and Van Dijk (2007) proposed that regulatory focus theory can be incorporated into leadership processes, leader regulatory focus has been examined as an antecedent of employee creativity (Wu et al., 2008) and employee performance (Sue-Chan et al., 2012). In addition to these studies, we proposed and demonstrated that leader prevention focus can also be a consequence of previous performance: suboptimal employee performance elicits prevention-focused leadership. Moreover, we showed in our sample of knowledge workers that prevention-focused leadership has a negative effect on creativity and eventually on performance (in contrast to Wu et al., 2008 and Sue-Chan et al., 2012). Our results also showed that when experiencing prevention-focused leadership, employees are more likely to conform to their supervisor and thus follow the ideas and suggestions of the supervisor, which limits the creative capacity of employees. We thus additionally show that conformity to supervisor is one explanatory mechanism in the relationship between leader prevention focus and creativity.

Third, the present study contributes to theories on vicious circles. While Masuch (1985), in his seminal article on vicious circles in organizations, outlined that people may unintentionally create undesired outcomes by trying to avoid these outcomes, not much literature has been devoted to the fact that managers may be the reason for poor employee performance to arise. One research stream that deals with this notion is the 'set-up-to-fail' syndrome (Manzoni & Barsoux, 1998). This

syndrome entails that when an employee shows poor performance, the supervisor devotes more attention to the employee, trying to boost performance. To the employee, however, this signals a lack of trust and confidence. Because of lower expectations, employees will eventually doubt their own qualities, lose motivation, and perform worse (also known as the Golem effect; see Oz & Eden, 1994). The supervisor sees this, will again increase the amount of attention spent on the employee, and the circle starts again. We add to this literature by showcasing that it may be important to incorporate regulatory focus theory into vicious circle theorizing: additional supervisor attention directed at preventing further performance deterioration and setting minimal goals may actually start a vicious circle of poor performance.

Finally, our results shed new light on the literature on knowledge workers and specifically on how knowledge workers should (not) be supervised. Managing the work performance of knowledge workers is difficult, because these employees work on complex tasks, have high levels of expertise, and have a high need for autonomy (Davenport et al., 1996, 2002; Henard & McFadyen, 2008; Mintzberg, 1998). As Mintzberg (1998) outlined, knowledge workers need facilitation and the right boundary conditions for their work, but are in less need of direction, motivation, and prototypical supervision (see also Mumford et al., 2002). Our empirical results complement this line of reasoning by showing that goal-directed prevention-focused leadership – which has a direct influence on the way knowledge workers should perform their work – can have negative consequences for creative and general performance levels. Whereas trying to prevent further performance deterioration might seem as a good plan at first sight, for knowledge workers this actually backfires as it leads them into a vicious circle.

This last point also has implications for practice. Due to technological developments, more and more (production) jobs are becoming knowledge jobs (Bell & Kozlowski, 2002; Chan, Beckman, & Lawrence, 2007), and it is important for managers to know how to (not) supervise knowledge workers. First, managers have to know that they themselves can be ones that create, foster, or strengthen vicious performance circles. As our results showed, a well-meant intervention of the supervisor to avoid poor employee performance and possible failure may unintentionally have negative consequences for employees' creativity and performance. While we do not advice managers to refrain from showing any prevention-focused behavior when guiding employees, we do advice managers to use this leadership behavior with care. Second, managers should be aware of the fact that conformity to their ideas and behaviors negatively relates to employee creativity, and should avoid being too specific in their directions to employees (e.g., suggesting specific solutions or ideas). Indeed, employees are likely to adopt or follow their manager's ideas, which may stifle their own creativity and ultimately undermine their performance. Rather, managers should insist on own contributions, input, and ideas of employees (and not only of their star performers).

Limitations and future directions

Despite our use of a longitudinal design with three waves of data collection, and of our use of multi-source data, there are some limitations that need to be considered. First, we did not determine exactly what suboptimal performance is, and average performance in our sample was quite high (around 4 on a 5-point scale). Most previous research on poor employee performance experimentally manipulated substandard performance, and examined the corrective actions supervisors would take to lift underperformance to above standard and the reactions of employee to this (e.g.,

Dobbins, 1985; Ilgen et al., 1981). In contrast, we could not clearly distinguish substandard from suboptimal performance. We believe, however, that the same is true in real life. Although supervisors can easily identify (very) bad performance, there usually is no fixed cut-off point in performance levels of (knowledge) workers that exactly determines what is acceptable and what not. By means of our approach, in which we correlated employee performance with supervisor reactions, we could examine our vicious circle in a real-life working sample with employees and supervisors.

A second limitation is the high attrition rate and consequently the relatively small sample size. Given our three-wave longitudinal design, it is inevitable that some PhD students and principal advisors dropped out. There also was some indication of selective dropout: the average performance of PhD students in the final sample was higher than the average performance of dropouts. This is probably the case because PhD students who performed somewhat less good at T1 had to spend more time and effort on their PhD project and were less motivated to participate in our research, or because these PhD students quit their PhD trajectory. Given that the somewhat worse performing PhD students dropped out, the variance in performance-ratings decreased, which probably made our results weaker and our tests more conservative. Nevertheless, it should be acknowledged that our sample is somewhat biased.

We should finally acknowledge that we did not have an objective measure of PhD students' performance, such as number of papers published. Rather, we relied on subjective performance ratings given by the principal advisors. While objective measures in general should be preferred, we felt that in this case subjective ratings were more suitable. Across academic disciplines, there are large differences in the number of papers published within a PhD-trajectory. For example, in the Medical

Sciences it is common to have multiple publications during a PhD, whereas in the Gamma Sciences it is rarely the case that PhD students have more than a few publications. Given this difference, using objective measures would seriously skew results, and would not give an accurate picture of the performance of PhD students.

Our study also paves the way for future research. First, it would be interesting to examine what happens if our vicious circle is applied to blue-collar workers. We would expect that leader prevention focus has a less negative effect and maybe even a positive effect on performance (see also Sue-Chan et al., 2012). In jobs where strict rule abidance and habitual thoughts and behaviors are more important (e.g., manufacturing, security), creativity might in fact hamper employees' performance (also see Ford, 1996). This may imply that prevention-focused leadership is effective in such jobs: it will turn employee attention to their duties and obligations, they will fully commit themselves to the ideas of the supervisor, and will avoid creative courses of action. Given that creativity might not be the most required or desired behavior to show for (some) blue-collar employees, we expect that their performance may increase. Moreover, it could be that in those (blue-collar) settings, leader promotion focus has a stronger influence on creativity or performance, as it departs from the usual leadership styles of close monitoring found in those settings.

Second, future research may consider the role of attributions. Attribution theory is a rich framework (for review see Martinko, Harvey, & Douglas, 2007), and attributions by supervisors depend upon many factors (e.g., experience of the supervisor and likeableness of the employee; see Dobbins & Russell, 1986; Mitchell & Kalb, 1982). While outside the scope of current research, we believe that future research should take attribution theory into account, and examine why and when supervisors show leader prevention focus following poor employee performance. We

expect that leader prevention focus would most likely be a reaction of the supervisor following internal attributions, given that this type of leadership is directed at the employee rather than at external factors such as working conditions (see Green & Mitchell, 1979; Mitchell & Wood, 1980).

Finally, future research could examine other leadership constructs that can potentially give rise to a negative performance spiral, or those that may lead to a positive spiral. One leadership construct that can also create a negative spiral is abusive supervision: supervisors may respond to poor performance in abusive ways (e.g., aggressively), which in turn causes an employee to perform even more poorly (Walter, Lam, van der Vegt, Huang, & Miao, 2015). On the other hand, one leadership construct potentially creating a positive spiral is initiating structure. Supervisor may react to poor performance among knowledge workers by providing more structure. When done correctly, this structure should make sure that employees are more focused on their work within certain boundaries. While this may limit radical new ideas that are completely new or different, it could well result in incremental creativity and new ideas that fit within the given structure (also see Rosing et al., 2011).

Conclusion

Using a novel preventive approach to performance management, we proposed and empirically showed that leader prevention focus as a reaction to suboptimal performance of knowledge workers results in a vicious circle: leader prevention focus resulted in PhD students conforming to their principal advisor, showing less creative behavior, and subsequently performing even worse. Whereas the goal of prevention-focused leadership is to prevent performance deterioration by having employees focus

on their duties, obligations, and responsibilities, supervisors unintentionally lead knowledge workers into a downward performance spiral.

CHAPTER 5

GENERAL DISCUSSION

"When launching something new, you have to go for it – "playing not to lose" can never be an option"

— Jack Welch

Some leaders play to win, whereas others do not want to lose. When leaders are playing for the win, their employees potentially become more creative in findings ways to progress and change. In contrast, when leaders play not to lose, creativity may be the last thing on employees' mind. This preference for playing to win versus playing to not lose is perfectly captured within the relatively new leadership construct we examined in this thesis, called leader regulatory focus. Promotion-focused leaders want to win, and want to change and improve the situation at hand, whereas prevention-focused leaders want to avoid failure, and want to make sure that the status quo is maintained. We examined the relation between leader regulatory focus and employee creativity, as these creative behaviors are vital to organizations' effectiveness, innovative capacity, and long-term survival. The purpose of this thesis was to systematically examine how, why, and when leader regulatory focus relates to employee creativity.

Relating back to the leadership examples used in the general introduction, Steve Jobs and Jordan Belfort (the Wolf of Wall Street) valued change and progress. Their leadership was intended to change the situation for the better, and to advance their companies to the next level. In this process, employees did not stick to commonly held thoughts about products, procedures, or services, but rather explored

new directions in their work. Employees became creative because they experienced that their leader wanted to win the game. On the other hand, Bob Dudley, CEO of BP, was more occupied with avoiding any further failure and losses after the Deepwater Horizon oil spill, and brought safety and risk management to the heart of the company. In so doing, employees throughout BP's operations strictly followed the risk-averse procedures and protocols, and thereby conservatively stayed away from creative endeavors. Dudley's leadership purpose was not to change for the better, but to avoid the worst. Dudley did not want to lose.

In this concluding chapter, we reflect on (the findings of) the three empirical chapters of this thesis. We first provide a summary of the results, which gives the reader an overview of how, why, and when leader regulatory focus relates to employee creativity. Then, we discuss the theoretical implications of our finding to the leadership, creativity, and regulatory focus literatures. Next, we highlight the limitations of our work and suggest future research directions. After this, we offer business leaders and managers practical solutions on how the insights from this thesis can be translated into best practices to enhance the (creative) functioning of their workforce. We conclude with the most important lessons learned from this thesis.

Summary of results

In this thesis, we set out to investigate how, why, and when leader regulatory focus is related to employee creativity. Throughout the three empirical chapters, we gave solid empirical evidence for the direct effect of leader regulatory focus on employee creativity and for the incremental predictive validity of leader regulatory focus above and beyond other well-established leadership behaviors (Chapter 2), we showed the processes by which leader regulatory focus relates to employee creativity (Chapter 2, 3, and 4), and we provided evidence for when leader promotion focus is

most likely to affect employees' radical creative behaviors (Chapter 3). Moreover, in Chapter 4, we also included employees' regular in-role job performance to show how this can act as both an antecedent and consequence of leader prevention focus. All in all, our results showed that leader regulatory focus has a profound impact on employee creativity.

More specifically, especially Chapter 2 dealt with *how* leader regulatory focus affects employee creativity. Using Higgins' (1997) regulatory focus theory as foundation, and drawing upon Kark and van Dijk's (2007) framework on the role of regulatory focus in leadership processes, we argued that leader promotion focus would positively relate to employee creativity, whereas leader prevention focus would negatively predict creative behaviors. Promotion-focused leadership guides employees to pursue maximal goals (gains, advancement, ideals) that stimulate employees to eagerly progress to a better state by using an exploratory processing style. In this pursuit, employees will deviate from routines and habitual thoughts, and thereby show creative behaviors. In contrast, prevention-focused leadership guides employees to pursue minimal goals (non-losses, security, oughts), thereby stimulating employees to maintain the status quo and avoid failure. In this attempt, employees use a conservative processing style, will focus on duties and responsibilities, and as a consequence show low levels of creativity. Using a two-wave multi-source field study among employees and supervisors from multiple companies in the Netherlands, we indeed found evidence for these predictions. Moreover, given the goal-directed nature of leader regulatory focus, we argued that the effects of leader promotion and prevention focus on employee creativity would be present when controlling for other leadership constructs that leave clear goals related to creative actions of employees unspecified. Our empirical results confirmed this theoretical argument, and we found

that leader regulatory focus has effects on employee creativity over and above four well-established leadership constructs (initiating structure, consideration, and transformational and contingent reward leadership). Hereby, we gave clear evidence that leader regulatory focus relates to employee creativity.

Throughout our three empirical chapters, we also examined *why* leader regulatory focus affects employee creativity. In Chapter 2, we argued for differential mediation: leader promotion focus relates to employee creativity via intrinsic motivation for creativity, whereas conformity to supervisor is a crucial mechanism in the relationship between leader prevention focus and creativity. Using self-determination theory (Ryan & Deci, 2000), we argued that leader promotion focus highlights ideals that make employees pursue innate needs leading to intrinsic motivation. Being intrinsically motivated has been theorized to be one, if not the most, important predictor of creativity (Amabile, 1988; Ryan & Deci, 2000). Prevention-focused leadership, however, is concerned with external obligation and pressure, which does not trigger a sense of self-determination needed for intrinsic motivation to arise. Instead, leader prevention focus causes employees to conform to their supervisor, because this minimizes the chances on failure and losses. In doing so, employees follow the thoughts and routines imposed by the leader and refrain from self-initiated creative actions. Results of the large-scale field study used in Chapter 2 indeed gave evidence for differential mediation, and we found full support for our model. Providing further evidence for the robustness of the mediating effect of conformity to supervisor in the relationship between leader prevention focus and employee creativity, we replicated these results in Chapter 4, in a three-wave multi-source field study among PhD students and their promotores. Thus, both in a diverse setting of multiple organizations, as well as in a specialized university setting of

knowledge workers, we found evidence for the mediating role of conformity to supervisor in the relation between leader prevention focus and employee creativity. Hence, this result seems to generalize across settings.

In Chapter 3, we examined leader creative expectations as the process that could explain the relationship between leader promotion focus and employee radical creativity. Following Ford's (1996) theory of creative action, we argued that creativity expectations of the leader are especially important to radical creativity, because employees need to have clear receptivity beliefs that signal that creativity is valued, expected, and rewarded. For employees, these expectations justify the pursuit of radical new ideas that can lead to major breakthroughs. Moreover, because promotion-focused leadership highlights advancement, change, and progress as important goals, and it challenges the status quo, it indicates to employees that creative behaviors are expected. Using a large field study among employees and supervisors from multiple organizations in the Netherlands, we indeed found evidence for the proposed mediating effect of leader creative expectations. Concluding, the results of our three empirical chapters provided solid evidence for why leader regulatory focus and employee creativity are related.

We also examined *when* leader regulatory focus affects employee creativity. Specifically, in Chapter 3, we examined two important boundary conditions of the effect of leader promotion focus on employee radical creativity: leader-member exchange (LMX) and creative self-efficacy. Given that promotion-focused goals are transmitted to employees within a social relationship, we proposed that leader promotion focus would have a stronger influence on leader creative expectations when employees have a high- (as opposed to low-) quality exchange relationship with their supervisor. Moreover, we argued that creative self-efficacy is necessary to be

able to turn creativity expectations into radical creative behaviors: employees who do not believe in their capability to be creative will not turn these expectations into radical creativity, whereas this will be the case for employee who have high capability beliefs regarding their creativity. Our empirical field study results in Chapter 3 supported our theoretical premise, and we found that leader promotion focus had the strongest effect on employee radical creativity when LMX and creative self-efficacy were high opposed to low. Hence, Chapter 3 further clarified when leader regulatory focus affects employees' creative actions.

In Chapter 4, we also examined employees' in-role job performance as antecedent and final consequence of leader prevention focus, and we suggested that a vicious circle may arise. Prevention-focused leadership can be a reaction to suboptimally performing employees, as leaders want to avoid performance levels to drop further. However, in a reaction to this leadership, employees tend to conform to their supervisor and thereby become less creative. Given the "creative" setting we examined in Chapter 4, namely PhD students as employees, creativity is an important predictor of overall job performance. Thus, we argued that because of the lowered creativity levels, employees also tend to perform at lower levels. The empirical results were as expected, and we thereby gave evidence for a potential trigger of prevention-focused leadership, namely previous performance, and the downward spiral this type of leadership can create.

Theoretical implications

Following the results, this thesis makes several contributions to the leadership, creativity, and regulatory focus literatures. We start with the contributions to the leadership literature. Overall, this research highlights that we have to rethink how leadership affects employee creativity. In recent decades, ample research has studied

leadership and how it can influence creative behaviors of employees (for an excellent overview, see Mainemelis et al., 2015). Results, however, have been somewhat disappointing: effects sizes are small and results have been inconsistent and heterogeneous (see Rosing et al., 2011). Indeed, as Appendix A illustrates, the relationship between different leadership constructs and employee creativity is not clear-cut. Following these unsatisfactory empirical findings, research has called for better theories about the relation between leadership and creativity (Atwater & Carmeli, 2009; Mumford et al., 2002; Tierney, 2008). As we proposed in this thesis, leadership is about goals displayed within social relations (Yukl, 2010). By moving back to these essential features of leadership, we refresh the leadership literature and bring a new perspective to the way leadership and creativity are related. Indeed, many of the well-established and often-studied leadership constructs seem to lack clear goals that employees should pursue. Using regulatory focus theory (Higgins, 1997) and theorizing about the role of regulatory focus in leadership processes (Kark & Van Dijk, 2007), we identified two clear goal-focused leadership behaviors that can unequivocally influence creativity: leader promotion focus and leader prevention focus. In our three empirical chapters, we found clear and consistent results concerning the relationship between leader regulatory focus and employee creativity. It should actually come as no surprise that goals play a crucial role in eliciting motivations and behaviors of employees: one of the most important theories in our field, goal setting theory (Locke & Latham, 1990), dictates that clear goals motivate and guide individuals' behaviors and actions. We identify regulatory goals in the leadership process, and thereby contribute to the leadership literature by showing how leadership is most likely to affect employees' creative behaviors.

Additionally, we contribute to the leadership literature by taking into account the social relations between leaders and employees. As noted by Piccolo and Colquitt (2006), most previous research examined leadership behavior and relational leadership in isolation. This is strange, as leadership goals are always displayed within social interactions (Yukl, 2010). Specifically, in Chapter 3, we included LMX as boundary condition of the effects of promotion-focused leadership, and showed that leader promotion focus had a stronger influence on employees' cognitions and behaviors when this exchange relationship was of high quality (see also Neubert et al., 2013; Zhang et al., 2012). This suggests that it is fruitful for leadership research to integrate goal-focused and relational leadership, and to examine their joint impact on employees' motivations and (creative) behaviors. After all, leadership is an interpersonal influence process, and without any form of social interaction leadership cannot exist (Yukl, 2010).

Our research also has implications for the (limited) literature specifically dealing with leadership and regulatory focus. There is some preliminary evidence that leader regulatory focus is related to employees' creativity (Wu et al., 2008) and in-role job performance (Sue-Chan et al., 2012). Moreover, Kark and Van Dijk's (2007) seminal article about the role of regulatory focus in leadership processes gives some theoretical basis for our argumentation. Kark and Van Dijk (2007) see leader regulatory focus as a chronic *trait* or situationally induced *state* that motivates leaders to show certain (transformational or transactional) leadership behaviors. In contrast, we conceptualized leader regulatory focus as leadership *behavior* through which leaders align employees with promotion (gains, advancement, ideals) or prevention goals (non-losses, security, oughts), and the appropriate behavioral inclinations (eagerness or vigilance) to attain those goals. Using this conceptualization, we

provided evidence for the incremental predictive validity of leader regulatory focus. In fact, our results showed that most other leadership constructs, except contingent reward leadership, added little explained variance when leader regulatory focus was included in the equation. This implies that leader regulatory focus behaviors (rather than states or traits) are a better predictor of employee creativity than other leadership constructs. Moreover, following this novel view on leader regulatory focus, we could contribute to the literature by providing evidence for multiple underlying processes and boundary conditions of the effects of leader regulatory focus on employee creativity. Additionally, research has shown that employee in-role performance can be an outcome of leader prevention focus (see Sue-Chan et al., 2012), which we replicated in Chapter 4. However, we significantly extended the literature by showing that employee performance also is an antecedent to leader regulatory focus, and we gave evidence for a negative spiral: initial low employee performance triggered leader prevention focus that in turn reduced creativity and performance. This evidence was obtained in a sample of knowledge workers, for whom creativity is important, and for those employees adopting prevention-focused leadership may not be a good strategy.

This brings us to the final implication for the leadership literature. An important part of leadership is performance management, and leaders have the crucial task of dealing with poorly performing employees (Mitchell & Kalb, 1982; O'Reilly & Weitz, 1980; Trahan & Steiner, 1994). Most previous research has examined how leaders try to correct employees' substandard performance to (at least) acceptable levels (Dobbins, 1985; Gavin et al., 1995; Ilgen et al., 1981; Mitchell & Wood, 1980). It is, however, not always possible to improve employees' performance, because employees may simply lack the skills or motivation. The goal of the leader may therefore sometimes be to avoid any additional performance failure. Indeed, we found

that leaders tend to show prevention-focused leadership in response to suboptimally performing employees. Hence, we add a new perspective to the performance management literature, and suggest that leaders may adopt a preventive (rather than corrective) approach to suboptimal performance. However, while intended to avoid further performance failure, our results showed that prevention-focused leadership may lead employees into a downward performance spiral. This also sheds new light on the literature on vicious circles (Masuch, 1985), to which only limited research has been devoted (for an excellent exception, see Manzoni & Barsoux' [1998] set-up-to-fail syndrome).

This research also has clear implications for the creativity literature. Only in the 1980s, research (led by Amabile and colleagues) began to examine how contextual or situational factors influence creativity (see Amabile, 1983; 1988; 1996; Amabile et al., 1996; Oldham & Cummings, 1996; Scott & Bruce, 1994). Before that, most research sought to uncover the cognitive styles or personality characteristics of creative individuals (Oldham & Cummings, 1996). Complementing this contextual view on employee creativity, we (once more) showed that leadership, as contextual factor, has important consequences for employee creativity (see also Mainemelis et al., 2015 for an overview). Moreover, we contributed to the interactionist approach to creativity (Amabile, 1996; George & Zhou, 2001; Shalley et al., 2004; Woodman et al., 1993): contextual and personal factors may interact to encourage or discourage employee creativity. As we showed in Chapter 3, creative self-efficacy (an employee characteristic; see Tierney & Farmer, 2002) acts as an important boundary condition of the effects of leadership on employee radical creativity. When employees have limited trust in their ability to be creative, leadership might not matter much, but leadership does have important effects on creative behaviors of employees who are

confident in their creative abilities. Hence, we also advanced the interactionist approach to employee creativity.

Ford's (1996) theory of creative action proposes that evoking creativity is difficult, because employees tend to resort to familiar behavioral actions. Indeed, creativity and habitual behaviors can be seen as competing behavioral options, and employees often choose habitual behaviors even when creative behaviors would be appropriate. In this context, we introduced the distinction between incremental and radical creativity, and proposed that stimulating radical (compared to general or incremental) creativity will be even more difficult, because it implies a large change in the status quo, and much risk and uncertainty (Gilson & Madjar, 2011; Madjar et al., 2011; Venkataramani et al., 2014). We found that receptivity beliefs, in the form of perceived leader creativity expectations, were of crucial importance particularly for employee radical creativity.

In two more ways, we contributed to the creativity literature. First, in our three empirical chapters, we provide compelling evidence that (promotion or prevention) goal-focused leadership can enhance or inhibit creative actions. Results of Chapter 2 suggest that when creativity is valuable leaders should communicate clear promotion-focused goals, whereas to restrain creativity, leaders would do good to communicate clear prevention-focused goals. Second, results of Chapter 4 showed that for knowledge workers (in this case PhD students), creativity is especially important, and may be a significant predictor of their overall job performance. Knowledge workers are the main source of creative ideas (Dul et al., 2011) and innovations (Davenport et al., 2002) within organizations, and their main purpose is to use their knowledge to generate new ideas, and to turn these ideas into innovative products, processes, services, or procedures (Chen et al., 2008; Wang & Horng, 2002). Thus, creativity

may to a large extent determine how well knowledge workers perform. Hence, we complement the creativity literature by showing that creative behaviors or creative output are important when examining the job performance of knowledge workers. In summary, the present thesis offers the creativity literature multiple new insights.

Finally, our research makes several noteworthy contributions to the regulatory focus literature. In line with Higgins' (1997) regulatory focus theory, most research has examined regulatory focus from an *intra*personal and self-regulation perspective (for meta-analytic evidence see Gorman et al., 2012; Lanaj et al., 2012). We, however, took an *inter*personal perspective to regulatory focus (see also Kark & Van Dijk, 2007; Righetti et al., 2011; Sue-Chan et al., 2012; Wu et al., 2008). We proposed that leaders can adopt regulatory goals in their leadership behavior, and that this has important consequences for employees' motivations and behaviors. Our approach differed from that of Kark and Van Dijk (2007): we proposed that leader regulatory focus can refer to *behavior* meant to influence employees directly, and that it is not only a chronic trait or situationally induced state leading to certain leadership behaviors. Thus, we introduced a new perspective on the role of regulatory goals in leadership processes. We also contribute to the literature on the interpersonal meaning of regulatory focus by connecting leader regulatory focus to employee motivations, expectations, and behaviors. Whereas previous research has directly linked leader regulatory focus to employee creativity (see Wu et al., 2008) and job performance (see Sue-Chan et al., 2012), empirical research has not examined mediators of this relation. Using intrinsic motivation for creativity, conformity to supervisor, and leader creative expectations, we filled this void: leader promotion focus is closely linked to the construct of intrinsic motivation as it deals with innate needs, whereas leader

prevention focus has more overlap with conforming behaviors meant to obtain external social approval.

Limitations and future research directions

In this thesis, we provided significant new insights into the relation between leadership and employee creativity. We further developed the concept of leader regulatory focus, examined how, why, and when leader regulatory focus relates to employee creativity, and were able to demonstrate that leader regulatory focus can predict employee creativity over and above the effects of well-established leadership constructs (see Chapter 2). Our empirical evidence is based on large-scale multi-wave multi-source field studies, conducted in multiple organization as well as among employees of a large Dutch research university, making results potent and generalizable. Despite these strengths, also some limitations deserve attention and we highlight several theoretical and empirical considerations. These issues provide scholars with opportunities to further advance research on leader regulatory focus.

First, we argued that leader promotion focus stimulates employee creativity, whereas leader prevention focus inhibits it. This may be one-sided, and we believe that employees can in fact become creative in averting failures in specific situations. Some evidence suggests that under imminent threat (Baas et al., 2011) or when creativity is functional to reach avoidance goals (Roskes et al., 2012) prevention focus may actually promote creativity. Indeed, in the process of preventing losses or avoiding failures, employees may carefully examine all possibilities, combine options, and come up with new and useful ideas to avert threats and maintain the status quo. An excellent example is provided by Gene Kranz, the NASA flight director of the Apollo 13 mission. Because of an onboard explosion, the spacecraft experienced reduced power, loss of cabin heat and all sorts of other problems, making

the return to earth a daunting endeavor. In directing his team, Kranz' attitude was that failure is not an option (which is also the title of his autobiography), and that they should do everything in their power to get their men back home safe. Thus, Kranz' foremost concern was making sure that they would not fail and lose their astronauts. As a response to his leadership, NASA engineers carefully examined all options and scenarios to pick the right strategy for the landing (also see the movie 'Apollo 13'). In this process, engineers became very creative, and came up with ideas to combine the limited resources of the astronauts to deal with the consequences of the onboard explosion and repair the damaged equipment. Engineers showed considerable ingenuity under extreme pressure, and yes, the astronauts safely returned to earth. Thus, when experiencing prevention-focused leadership, employees can also creatively avoid failures in specific (extreme) situations. Indeed, the purpose of leader prevention focus is not to inhibit creativity. The point is, however, that creativity is often not a useful or expected behavior when pursuing prevention goals. Nevertheless, there are situations in which creativity is called for to effectively avert failure. We did not examine this, and therefore we advise future research to study the contingencies under which leader prevention focus can promote creativity.

Likewise, sometimes leader promotion focus may not be positively related to employee creativity, an option that we have not examined. First, given that the creative process takes much time and effort, employees experiencing promotion-focused leadership may not devote enough time and effort to this process. As employees eagerly strive for gains and advancement, wanting to change the situation for the better, they may become rushed and put insufficient time into thoroughly understanding the problem at hand, and therefore may not have enough detailed knowledge to come up with creative ideas. Hence, these employees may skip the

creative process in their search for progression. Second, it could also be the case that employees do not show creative behaviors to attain promotion focus goals, but rather engage in other behaviors. Employees could, for example, also attain these goals by resorting to unethical behaviors. Using the example of Jordan Belfort (the Wolf of Wall Street), his employees initially showed creative ideas in finding complex financial products to increase profits. However, employees later replaced this creativity by unethical behaviors, and gained more profits using rather shady constructions on the stock market. A more recent example occurred within the Japanese multinational Toshiba, specialized in technological devices and nuclear systems. In 2015, the entire board of Toshiba had to resign, after a large accounting scandal was made public. Apparently, managers had unrealistic high goals for progress, which employees were unable to achieve using regular means. Rather, employees resorted to unethical methods to inflate profits over a longer period of time. These two examples show that employees experiencing promotion-focused leadership may use creativity as a mean to attain their goals, but may also turn to unethical behaviors. We did not examine other outcomes than employee creativity, leaving room for future research to examine outcomes such as unethical behavior.

Also, we argued in Chapter 4 that leader prevention focus is likely to negatively relate to employee in-role job performance. In our specific setting of knowledge work within a research university, it may indeed be the case that a strong leadership focus on prevention goals may hamper employees' creative capacity and thereby their performance levels. However, we expect that leader prevention focus might well enhance employee performance for blue-collar workers whose work has seemingly less to do with creative efforts. The results of the field study conducted by Sue-Chan and colleagues (2012) indeed showed that leader prevention focus

positively relates to performance effectiveness of assembly line workers in a Malaysian production factory. Given that blue-collar workers often have to meet fixed quotas such as finished products per hour, prevention-focused leadership might just do the trick to motivate employees to perform better by highlighting duties, obligations, and responsibilities. On the other hand, creativity, for example resulting from promotion-focused leadership, may in fact hamper employees' performance, as it distracts them from their main duty of finishing their work in the allotted time. We have not examined how leader regulatory focus would affect the motivations and behaviors of blue-collar (versus white-collar) workers. We advise future research to do so, and paint a fuller picture of how employees behave when experiencing promotion- or prevention-focused leadership.

We focused on the concept of leadership as being goal-directed, without paying attention to the other roles that leaders have in supervising employees. We expect that clear goals may be necessary but not sufficient for creativity to arise. Employees, for example, need resources (time, space, money) to be creative. Leaders can have clear promotion goals that should motivate employees to pursue creative paths, but without providing employees the right resources, creative behaviors may not be achieved. Leaders should thus also put their money where their mouth is. Moreover, leaders also have a supportive, protective, and facilitative function. Leaders are there to help employees when needed, to reward them when appropriate, and to punish them when necessary. We largely neglected the other roles that leaders have, and directed our attention to goal-focused leadership (in combination with relational leadership in Chapter 3). We believe that combining the different roles that leaders have may provide additional clarity about how leaders affects employees' creative behaviors.

We also did not fully examine the possible differential effects of leader regulatory focus on incremental, general, and radical creativity. While in Chapter 3 we proposed that radical (compared to incremental) creativity is likely to benefit more from creativity expectations that follow the promotion focus goals that leaders set, we did not examine how leader promotion and prevention focus relate to different levels of creativity. It may be the case that leader prevention focus is positively related to incremental creativity, as this form of creativity implies minor changes to work that can be accomplished by focusing on details. Therefore, we advise future research to study how leader regulatory focus relates to incremental, general, and radical creativity.

Next to the theoretical considerations that are identified above, it is also important to acknowledge the empirical limitations of our studies. First, in Chapter 2 and 3, we collected data from various organizations, but we did not systematically study the relative importance of leader regulatory focus for employee creativity in different types of organizations. While creativity can be important within any type of organization or sector (Shalley et al., 2000, 2004), it could be that in some organizations or sectors creativity is more valued than in others. Especially the extent to which creativity is implicitly or explicitly expected from employees, and can thus be considered a role requirement, may vary across organizations. Whenever creativity is already expected from employees by the job, leader behaviors might not do much to employee creativity levels because employees are already following their work requirements. In a similar vein, leader regulatory focus may differ across occupations or companies: some companies will traditionally have a higher level of promotion-focused leadership (e.g., in famous technology companies such as Google or Apple), whereas in other companies leaders tend to show more prevention-focused behaviors

(e.g., in hospitals). This may imply that increases in such standard leadership behaviors may not have a large effect on employees' behaviors. Although we examined a specific setting of knowledge workers in Chapter 4, and showed that creativity is essential for their functioning and leader prevention focus can severely hamper creative capacity, we do believe that our proposed model should be examined in additional homogeneous settings.

A second empirical limitation is that we did not include objective measures of creativity, and relied on subjective leader ratings. More objective measures of creativity were difficult to obtain, because we collected data from different organizations that operate in different economic and social domains (Chapter 2 and 3), and because appropriate objective standards were not available along which proxies of creative output could be compared (Chapter 4, in which, for example, publications varied extremely across faculties of the university). Leader ratings have often been used in previous research (e.g., Tierney & Farmer, 2011; Tierney et al., 1999; Zhang & Bartol, 2010b), and leaders, who play a pivotal role in performance appraisal systems, can have an accurate judgment of the creativity levels of their employees. However, we acknowledge that leaders do not see all creative actions, or hear all creative ideas, of their employees. One could therefore, for example, include peer ratings of creativity, as employees often discuss ideas with each other (ideas that may not reach to the supervisor). When the sample is homogeneous, we believe that expert ratings of (creative) output of employees are also valuable. Based on the literature, however, we also have some issues with using objective measures of creativity. Some research (e.g., Oldham & Cummings, 1996; Tierney et al., 1999) has included both subjective leader ratings of creativity and objective measures (such as the number of research reports or contributions to a suggestion program), but found

that results were inconsistent across measures. Oldham and Cummings (1996) proposed that subjective and objective measures of creativity may reflect different levels of creativity: suggestions may for example represent adaptive creativity, whereas patents reflect radical creative performance. It could also be that patents and research reports, as opposed to rated creativity, reflect more a team effort than an individual effort: obtaining a patent requires a long process and may depend upon assistance of colleagues and supervisor support. Concluding, we believe that including objective measures in future work may definitely contribute to our knowledge, but that it should be made clear what kind of creativity they reflect.

We offer four additional avenues for future research. First, it could be that leader promotion focus and leader prevention focus serve different purposes in the different stages of the creativity process. We expect that leader promotion focus is especially important for the initial stages of generating (multiple) creative ideas, as employees who experience promotion-focused leadership tend to become flexible in their thinking and processing style. Leader prevention focus, on the other hand, may be necessary to examine whether these ideas are feasible and worthwhile. As creativity implies both inspiration as well as perspiration, it could well be that both leadership foci are necessary for creative ideas to arise. Extending this thinking even further, we expect that implementing creative ideas (i.e., innovations) may benefit from prevention-focused leadership, because persistence is necessary to turn a creative idea into products or processes that reach the market. Relating back to the pharmaceutical example we used in the general introduction, we believe that promotion-focused leadership is necessary for employees to come up with multiple ideas for new medicines, whereas leader prevention focus is necessary for the trial

phases of these medicines as employees need to persist in their (creative) efforts despite possible setbacks along the way.

Second, we believe that leaders may also switch between leader promotion and prevention focus, depending upon the employee, the work to be done, or the prevailing market conditions. Leadership is by definition strategic: leaders show those behaviors that are needed according to the situation at hand. Although leaders may have a natural preference for showing promotion- or prevention focused leadership, we think that leaders can be flexible in the goals they communicate to employees. This is related to the idea of ambidextrous leadership (Rosing et al., 2011): depending upon the situation, leaders may show one of both types of leadership, a combination of both (interactive model) or use both sequentially (first show one, then the other). Future research can further examine these issues.

Third, while we touched upon the interactionist approach to employee creativity (see Amabile, 1996; George & Zhou, 2001; Oldham & Cummings, 1996; Woodman et al., 1993), more attention could have been devoted to this topic. In Chapter 3, we showed that the effects of leader creative expectations (as a result of promotion-focused leadership) on radical creativity are bounded by employees' creative self-efficacy. Extending this line of reasoning, when an employee is not particularly interested in or does not like creative actions (e.g., scores low on openness to experience or extraversion), leader promotion focus might not work. In a similar vein, leader prevention focus might not work for employees who have an exploratory nature and tend to see room for improvement in every situation. It may also be the case that some personal characteristics of employees may substitute for leadership (see Kerr & Jermier, 1978). For example, employees scoring high on neuroticism by nature tend to focus on details and are oriented towards avoiding

negative outcomes, and for these employees prevention-focused leadership may not cause much change in their motivations or behaviors. Concluding, future research could examine in more detail how personal characteristics of employees may limit or enhance the effects of leader regulatory focus on creativity, or how these characteristics may even substitute for promotion- or prevention-focused leadership.

A final future research direction is to examine regulatory fit. In the present thesis, we neglected the interplay between, for example, leader regulatory focus and employee and supervisor chronic or situational regulatory focus. Research (e.g., Higgins, 2000; Kark & Van Dijk, 2007; Lockwood, Jordan, & Kunda, 2002; Van Dijk & Kluger, 2004) has suggested that a fit between regulatory foci may be especially important in boosting employee motivation. In particular, we advise future research to examine the fit between employees' perceived leader regulatory focus and their own regulatory focus: using for example promotion-focused leadership to motivate a heavily prevention-focused individual may not be the optimal strategy.

Practical implications

Organizations need employee creativity: it helps them to adapt to changing circumstances, to grow and compete in today's turbulent business markets, and to survive times of economic crisis. Moreover, creativity enables employees to come up with new and improved ways to complete their work, to effectively deal with problems and difficulties, and to handle changes in work routines. Indeed, every kind of company may benefit from creative employees: it can be the R&D scientist whose main job is to generate new products, the nuclear plant engineer who has to use his imagination to get the reactor-cooling back to work to avert nuclear meltdown (as in the recent Fukushima-disaster), or the office employee who wants to make his work a

bit more efficient. This thesis offers managers multiple practical insights about how they can motivate employees to pursue creative paths.

As we showed throughout this thesis, promotion-focused leadership enhances employee creativity. Translating this to practice implies that managers should set clear goals for advancement, growth, and change, and managers should allow employees to eagerly pursue those goals (i.e., not restrict them in their ways to attain those goals). The word 'clear' is important here: to motivate employees and to truly make a difference, the best thing a manager can do is to set specific goals that should be attained within a certain time span, and managers should (be able to) track employees' progress so that there is room for adjustment along the way. In other words, goals should be made SMART. In highlighting goals for progress, the mindset of managers should be 'at least we tried', instead of 'thank goodness we did not'. Employees should be permitted to take an occasional risk, to experience failure along the way, and to try out different strategies and means. This, however, does not imply that employees should not be monitored. As the examples of the Wolf of Wall Street and more recently Toshiba showed that employees could become too creative (unethical) in their goal pursuit, we advise managers to keep monitoring their employees.

When creativity is needed, our results also suggest that prevention-focused leadership should be avoided. It may, however, sometimes be the case that managers value conforming behaviors and detailed work of employees, and that employees should follow their duties and responsibilities at work. Returning to the situation at BP, CEO Bob Dudley valued these behaviors, because they were necessary to handle the disaster in the Gulf of Mexico. However, also other jobs need an eye for detail, such as architects who have to calculate the strength of buildings, or surgeons who

have to perform difficult operations. Almost every job includes tasks that need employees to follow strict procedures or which need detailed work (just think about the last time you had to do concentrated work). In these cases, managers would do good to show prevention-focused leadership. A mentality of 'better safe than sorry' fits these situations better than 'oh well, you can't win them all'. Again, we advise supervisors to make these goals as specific as possible, as this increases the chances that managers can protect what they have, and can guard against the negative outcomes they wish to avoid.

What managers should not forget is that they communicate these goals to employees within a social relationship. Leadership does not happen in a vacuum, and managers convey their influence by means of social interactions with their employees. As our results showed, employees are more likely to act upon the instructions of their manager when they have a high-quality relationship with their manager. Hence, managers should (strategically) establish and maintain good working relationships with individual employees. While employees will always follow the directions of their managers to some extent (as managers decide what will be done), managers may want to increase their range and effectiveness of influence on their employees. There are several ways they can improve these working relationships. First, we advise managers to have regular individual meetings with employees. These meetings do not need to be long, and can just consist of some small chitchat about how things have been going lately. These meetings should definitely not turn into monitoring, progress, or appraisal interviews, as managers quickly have a habit of only talking about work. Second, managers should care about the personal needs and wishes of employees, and even more importantly, managers should act upon these needs. For example, when an employee temporarily has a difficult situation at home, this

employee may need some more flexibility at work. Managers who provide employees this opportunity are more likely to build up or maintain good working relationships with their employees. The essence is that employees should feel valued and respected, and when a manager gives employees this feeling, chances are high they can and will build up a good working relationship. This individual working relationship may then determine the extent to which managers can use specific goals to influence and direct their employees to attain desired outcomes.

When employees need to do things completely different, and show acts of radical creativity or produce major breakthroughs, managers should have clear expectations regarding creative acts. It may in fact be quite difficult to have employees show radical creative behaviors, as employees prefer to show habitual behaviors or behaviors related to incremental adjustments. As we showed, these expectations may be the results of goals related to advancement, progress, and change. However, we believe that managers may also directly communicate expectations regarding creativity, or make creativity a job or role requirement. When managers openly communicate to employees that they expect employees to pursue creative paths, employees are (more) likely to come up with revolutionary ways of improving work. When the situation asks for a creative approach (as is often the case in today's turbulent business markets), managers should let their employees know that creativity is needed and expected to deal with shifting markets. Similarly, when the job requires employees to become creative, this signals to employees that they have to engage in creative efforts. Hence, managers may also incorporate creative behaviors in the job requirements of employees. We do emphasize that these expectations may not work for all employees. Employees who clearly have no affinity with creative acts and do not believe in their ability to be creative may not react to managers'

expectations about creativity. Although managers may not specifically know which employees believe in their creative capacities, managers often do know the employees that have shown (radical) creative behaviors before. These latter employees seem to be more motivated to show creative acts, and thereby also have more faith in their ability to generate creative ideas. When there is an acute need for doings things creatively, we advise managers to direct their attention and expectations to those employees who have shown creativity before; otherwise, managers' attempts to promote creative acts may be futile.

Our research also has implications for the management of knowledge workers. In the global economy, more and more jobs are becoming knowledge intensive, and companies rely upon the effective generation and transmission of new information and knowledge across business units. Hence, it is valuable to know how to supervise knowledge workers. We show that leader prevention focus, as a well-meant intervention to deal with (poorly performing) knowledge workers, may actually work out badly and cause a downward performance spiral. A focus on avoiding failure and other negative outcomes severely limits knowledge workers' creativity because employees tend to conform to the ideas and actions of their manager. Knowledge workers become cautious in making sure that they do not fail and tend to follow the leader, whereas they in fact need a more open mindset to generate new ideas. One of the most important tasks of knowledge workers is to individually come up with new ideas, and not to follow the ideas of others. Hence, in trying to avoid failure, managers actually may create additional poor performance. Managers should be aware that they themselves could be the one that creates, fosters, or strengthens downward performance spirals. We do believe, however, that prevention-focused leadership, when correctly applied, may sometimes be necessary to supervise

knowledge workers who only have fragmented ideas and are not getting their (contractual) work done. We specifically advise managers of knowledge workers who use prevention-focused leadership to monitor whether the desired behaviors and results are attained.

Finally, we want to stress to higher-level managers that their companies cannot only train or hire promotion-focused managers when creativity is valued in their company, or prevention-focused managers when conforming behaviors are valued. As we outlined before, both types of leadership behaviors may be necessary, and it depends on the situation which leadership behavior is most effective. Moreover, also in the creativity process, it may be that first promotion-focused leadership is necessary to have employees generate multiple high-quality ideas, whereas prevention-focused necessary is necessary to find out which ideas are truly new and useful and can be selected and implemented. As leadership is always a strategic endeavor, our final advise to managers is to strategically use both types of leadership to deal with the situation at hand.

Concluding remarks and take home message

The purpose of this thesis was to examine how, why, and when leader regulatory focus affects employees' creative behaviors. In the three empirical chapters, our results demonstrated that leaders, by showing promotion-focused or prevention-focused leadership, substantially affect employees' engagement in creative efforts. As such, the present thesis lays a solid theoretical foundation and provides empirical evidence for the role of leader regulatory focus in stimulating or inhibiting employee creativity. Hereby, we pave the way for future research endeavors, and provide managers practical insights and solutions about how they can stimulate creative behaviors among their employees. In summary, we found that leader

regulatory focus has a profound impact on employee creativity, and clarified how, why, and when this is the case. Playing to win or playing to not lose: it matters for employee creativity.

REFERENCES

Afsar, B., Badir, Y. F., & Bin Saeed, B. (2014). Transformational leadership and innovative work behavior. *Industrial Management & Data Systems, 114,* 1270–1300. doi: 10.1108/IMDS-05-2014-0152

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions.* Thousand Oaks, CA: Sage.

Allen, V. L., & Levine, J. M. (1968). Creativity and conformity. *Journal of Personality, 36,* 405–419. doi: 10.1111/j.1467-6494.1968.tb01482.x

Amabile, T. M. (1983). *The social psychology of creativity.* New York: Springer-Verlag.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 123–167). Greenwich, CT: JAI Press.

Amabile, T. M. (1996). *Creativity in context.* Boulder, CO: Westview Press.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal, 39,* 1154–1184. doi: 10.2307/256995

Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology, 66,* 950–967. doi: 10.1037/0022-3514.66.5.950

Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *Leadership Quarterly, 15,* 5–32. doi: 10.1016/j.leaqua.2003.12.003

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40,* 1297–1333. doi: 10.1177/0149206314527128

Andrews, F. M. (1967). Creative ability, the laboratory environment, and scientific performance. *IEEE Transactions on Engineering Management*, *14*, 76–83. doi: 10.1109/TEM.1967.6448326

Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *Leadership Quarterly, 14,* 261–295. doi: 10.1016/S1048-9843(03)00030-4

Atwater, L., & Carmeli, A. (2009). Leader-member exchange, feelings of energy, and involvement in creative work. *Leadership Quarterly, 20,* 264–275. doi: 10.1016/j.leaqua.2007.07.009

Avolio, B. J., & Bass, B. M. (1991). *The full range leadership development programs: Basic and advanced manuals.* Binghamton, NY: Bass, Avolio & Associates.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 72,* 441–462. doi: 10.1348/096317999166789

Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology, 73,* 265–285. doi: 10.1348/096317900167029

Baas, M., De Dreu, C. K. W., & Nijstad, B. A. (2011). When prevention promotes creativity: The role of mood, regulatory focus and regulatory closure. *Journal of Personality and Social Psychology, 100,* 794–809. doi: 10.1037/a0022981

Baer, J., & Kaufman, J. C. (2008). Gender differences in creativity. *Journal of Creative Behavior, 42,* 75–105. doi: 10.1002/j.2162-6057.2008.tb01289.x

Baer, M., & Oldham, G. R. (2006). The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology, 91,* 963–970. doi: 10.1037/0021-9010.91.4.963

Barron, F., & Harrington, D. M. (1981). Creativity, intelligence, and personality. *Annual Review of Psychology, 32,* 439–476. doi: 10.1146/annurev.ps.32.020181.002255

Bass, B. M. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

Basu, R., & Green. S. G. (1997). Leader-member exchange and transformational leadership: An empirical examination of innovative behaviors in leader-member dyads. *Journal of Applied Social Psychology, 27,* 477–499. doi: 10.1111/j.1559-1816.1997.tb00643.x

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods, 8,* 274–289. doi: 10.1177/1094428105278021

Bell, B. S., & Kozlowski, S. W. J. (2002). A typology of virtual teams: Implications for effective leadership. *Group & Organization Management, 27,* 14–49. doi: 10.1177/1059601102027001003

Blau, P. (1964). *Exchange and power in social life.* New York: Wiley.

Brendl, C. M., & Higgins, E. T. (1996). Principles of judging valence: What makes events positive or negative?. *Advances in Experimental Social Psychology, 28,* 95–160. doi: 10.1016/S0065-2601(08)60237-3

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1,* 185–216. doi: 10.1177/135910457000100301

Brockner, J., & Higgins, E. T. (2001). Regulatory focus theory: Implications for the study of emotions at work. *Organizational Behavior and Human Decision Processes, 86,* 35–66. doi: 10.1006/obhd.2001.2972

Brown, K. A., & Mitchell, T. R. (1986). Influence of task interdependence and number of poor performers on diagnoses of causes of poor performance. *Academy of Management Journal, 29,* 412–424. doi: 10.2307/256196

Byron, K., & Khazanchi, S. (2012). Rewards and creative performance: A meta-analytical test of theoretically driven hypotheses. *Psychological Bulletin, 138,* 809–830. doi: 10.1037/a0027652

Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology, 14,* 389–405. doi: 10.1023/A:1022991115523

Carmeli, A., & Schaubroeck, J. (2007). The influence of leaders' and other referents' normative expectations on individual involvement in creative work. *Leadership Quarterly, 18,* 35–48. doi: 10.1016/j.leaque.2006.11.001

Chan, J. K., Beckman, S. L., & Lawrence, P. G. (2007). Workplace design: A new managerial imperative. *California Management Review, 49(2),* 6–22.

Chen, M. H., Chang, Y. C., & Hung, S. C. (2008). Social capital and creativity in R&D project teams. *R&D Management, 38,* 21–34. doi: 10.1111/j.1467-9310.2007.00494.x

Chen, Y. S., & Chang, C. H. (2013). The determinants of green product development performance: Green dynamic capabilities, green transformational leadership, and green creativity. *Journal of Business Ethics, 116,* 107–119. doi: 10.1007/s10551-012-1452-x

Cheung, M. F. Y., & Wong, C. S. (2011). Transformational leadership, leader support, and employee creativity. *Leadership & Organization Development Journal, 32,* 656–672. doi: 10.1108/01437731111169988

Chirumbolo, A., Livi, S., Mannetti, L., Pierro, A., & Kruglanski, A. W. (2004). Effects of need for closure on creativity in small group interactions. *European Journal of Personality, 18,* 265–278. doi: 10.1002/per.518

Choi, J. N., Anderson, T. A., & Veillette, A. (2009). Contextual inhibitors of employee creativity in organizations: The insulating role of creative ability. *Group & Organization Management, 34,* 330–357. doi: 10.1177/1059601108329811

Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology, 55,* 591–621. doi: 10.1146/annurev.psych.55.090902.142015

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151–192). Boston: McGraw-Hill.

Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovation process. *Journal of Occupational and Organizational Psychology, 75,* 409–422. doi: 10.1348/096317902321119574

Cropley, D. H., Cropley, A. J., Kaufman, J. C., & Runco, M. A. (2010). *The dark side of creativity.* New York: Cambridge University Press.

Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes, 69,* 117–132. doi: 10.1006/obhd.1996.2675

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York: Harper and Row.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention.* New York: HarperCollins.

Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 313–335). New York: Cambridge University Press.

Daley, D. M. (2008). The burden of dealing with poor performers: Wear and tear on supervisory organizational engagement. *Review of Public Personnel Administration, 28,* 44–59. doi: 10.1177/0734371X07311253

Davenport, T. H., Jarvenpaa, S. L., & Beers, M. C. (1996). Improving knowledge work processes. *Sloan Management Review, 37(4),* 53–65.

Davenport, T. H., Thomas, R. J., & Cantrell, S. (2002). The mysterious art and science of knowledge-worker performance. *Sloan Management Review, 44(1),* 23–40.

Davis, W. D., Carson, C. M., Ammeter, A. P., & Treadway, D. C. (2005). The interactive effects of goal orientation and feedback specificity on task

performance. *Human Performance, 18,* 409–426. doi: 10.1207/s15327043hup1804_7

Deichmann, D., & Stam, D. (2015). Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas. *Leadership Quarterly, 26,* 204–219. doi: 10.1016/j.leaqua.2014.10.004

Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review, 11,* 618–634. doi: 10.2307/258314

Ding, M., Dong, S., Eliashberg, J., & Gopalakrishnan, A. (2014). In M. Ding, J. Eliashberg & S. Stremersch (Eds.), *Innovation and marketing in the pharmaceutical industry: Emerging practices, research, and policies* (pp. 83–117). New York: Springer.

Dobbins, G. H. (1985). Effects of gender on leaders' responses to poor performers: An attributional interpretation. *Academy of Management Journal, 28,* 587–598. doi: 10.2307/256115

Dobbins, G. H., & Russell, J. M. (1986). The biasing effects of subordinate likeableness on leaders' responses to poor performers: A laboratory and a field study. *Personnel Psychology, 39,* 759–777. doi: 10.1111/j.1744-6570.1986.tb00593.x

Drucker, P. F. (1999). Knowledge-worker productivity: The biggest challenge. *California Management Review, 41(2),* 79–94.

Dul, J., Ceylan, C., & Jaspers, F. (2011). Knowledge workers' creativity and the role of the physical work environment. *Human Resource Management, 50,* 715–734. doi: 10.1002/hrm.20454

Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management, 38,* 1715–1759. doi: 10.1177/0149206311415280

Eden, D. (1984). Self-fulfilling prophecy as a management tool: Harnessing Pygmalion. *Academy of Management Review, 9,* 64–73. doi: 10.2307/258233

Eisenbeiß, S. A., & Boerner, S. (2013). A double-edged sword: Transformational leadership and individual creativity. *British Journal of Management, 24,* 54–68. doi: 10.1111/j.1467-8551.2011.00786.x

Eisenberger, R., & Rhoades, L. (2001). Incremental effects of reward on creativity. *Journal of Personality and Social Psychology, 81,* 728–741. doi: 10.1037//0022-3514.81.4.728

Erez, M., & Nouri, R. (2010). Creativity: The influence of cultural, social, and work contexts. *Management and Organization Review, 6,* 351–370. doi: 10.1111/j.1740-8784.2010.00191.x

Fasko, D. (2000). Education and creativity. *Creativity Research Journal, 13,* 317–327. doi: 10.1207/S15326934CRJ1334_09

Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and Social Psychology Review, 2,* 290–309. doi: 10.1207/s15327957pspr0204_5

Fleishman, E. A. (1973). Twenty years of consideration and structure. In E. A. Fleishman & J. G. Hunt (Eds.), *Current development in the study of leadership* (pp. 1–40). Carbondale, IL: Southern Illinois University Press.

Fleishman, E. A., & Peters, D. R. (1962). Interpersonal values, leadership attitudes and managerial success. *Personnel Psychology, 15,* 127–143. doi: 10.1111/j.1744-6570.1962.tb01855.x

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review, 21,* 1112–1142. doi: 10.2307/259166

Frese, M., Teng, E., & Wijnen, C. J. D. (1999). Helping to improve suggestion systems: Predictors of making suggestions in companies. *Journal of Organizational Behavior, 20,* 1139–1155. doi: 10.1002/(SICI)1099-1379(199912)20:7<1139::AID-JOB946>3.0.CO;2-I

Gavin, M. B., Green, S. G., & Fairhurst, G. T. (1995). Managerial control strategies for poor performance over time and the impact on subordinate reactions. *Organizational Behavior and Human Decision Processes, 63,* 207–221. doi: 10.1006/obhd.1995.1074

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology, 86,* 513–524. doi: 10.1037//0021-9010.86.3.513

George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal, 50,* 605–622. doi: 10.5465/AMJ.2007.25525934

Gevers, J. M. P., & Demerouti, E. (2013). How supervisors' reminders relate to subordinates' absorption and creativity. *Journal of Managerial Psychology, 28,* 677–698. doi: 10.1108/JPM-09-2011-0055

Gilmore, P. L., Hu, X., Wei, F., Tetrick, L. E., & Zaccaro, S. J. (2013). Positive affectivity neutralizes transformational leadership's influence on creative performance and organizational citizenship behaviors. *Journal of Organizational Behavior, 34,* 1061–1075. doi: 10.1002/job.1833

Gilson, L. L., & Madjar, N. (2011). Radical and incremental creativity: Antecedents and processes. *Psychology of Aesthetics, Creativity, and the Arts, 5,* 21–28. doi: 10.1037/a0017863

Goncalo, J. A., & Duguid, M. M. (2012). Follow the crowd in a new direction: When conformity pressure facilitates group creativity (and when it does not). *Organizational Behavior and Human Decision Processes, 118,* 14–23. doi: 10.1016/j.obhdp.2011.12.004

Goncalo, J. A., & Staw, B. M. (2006). Individualism-collectivism and group creativity. *Organizational Behavior and Human Decision Processes, 100,* 96–109. doi: 10.1016/j.obhdp.2005.11.003

Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal, 52,* 765–778. doi: 10.5465/AMJ.2009.43670890

Goodman, J. S., Wood, R. E., & Hendrickx, M. (2004). Feedback specificity, exploration, and learning. *Journal of Applied Psychology, 89,* 248–262. doi: 10.1037/0021-9010.89.2.248

Gorman, C. A., Meriac, J. P., Overstreet, B. L., Apodaca, S., McIntyre, A. L., Park, P., & Godbey, J. N. (2012). A meta-analysis of the regulatory focus nomological network: Work-related antecedents and consequences. *Journal of Vocational Behavior, 80,* 160–172. doi: 10.1016/j.jvb.2011.07.005

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25,* 161–178. doi: 10.2307/2092623

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multilevel multidomain perspective. *Leadership Quarterly, 6,* 219–247. doi: 10.1016/1048-9843(95)90036-5

Green, S. G., & Mitchell, T. R. (1979). Attributional processes of leaders in leader-member interactions. *Organizational Behavior and Human Performance, 23,* 429–458. doi: 10.1016/0030-5073(79)90008-4

Gu, Q., Tang, T. L. P., & Jiang, W. (2015). Does moral leadership enhance employee creativity? Employee identification with leader and leader-member exchange (LMX) in the Chinese context. *Journal of Business Ethics, 126,* 513–529. doi: 10.1007/s10551-013-1967-9

Guilford, J. P. (1950). Creativity. *American Psychologist, 5,* 444–454. doi: 10.1037/h0063487

Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of Business Research, 62,* 461–473. doi: 10.1016/j.jbusres.2007.07.032

Henard, D. H., & McFadyen, M. A. (2008). Making knowledge workers more creative. *Research-Technology Management, 51(2),* 40–46.

Henker, N., Sonnentag, S., & Unger, D. (2015). Transformational leadership and employee creativity: The mediating role of promotion focus and creative process engagement. *Journal of Business Psychology, 30,* 235–247. doi: 10.1007/s10869-014-9348-7

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52,* 1280–1300. doi: 10.1037/0003-066X.52.12.1280

Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivation principle. *Advances in Experimental Social Psychology, 30,* 1–46. doi: 10.1016/S0065-2601(08)60381-0

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55,* 1217–1230. doi: 10.1037/0003-066X.55.11.1217

Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology, 88,* 170–178. doi: 10.1037/0021-9010.88.1.170

Hox, J. J. (2002). *Multilevel analysis: Techniques and applications.* Mahwah, NJ: Lawrence Erlbaum Associates.

Hsu, M. L. A., Hou, S. T., & Fan, H. L. (2011). Creative self-efficacy and innovative behavior in a service setting: Optimism as a moderator. *Journal of Creative Behavior, 45,* 258–272. doi: 10.1002/j.2162-6057.2011.tb01430.x

Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology, 64,* 349–371. doi: 10.1037/0021-9010.64.4.349

Ilgen, D. R., Mitchell, T. R., & Fredrickson, J. W. (1981). Poor performers: Supervisors' and subordinates' responses. *Technical Report 517,* 1–43, U. S. Army Research Institute for the Behavioral and Social Sciences.

Janssen, O., van de Vliert, E., & West, M. (2004). The bright and dark sides of individual and group innovation: A Special Issue introduction. *Journal of Organizational Behavior, 25,* 129–145. doi: 10.1002/job.242

Janz, B. D., Colquitt, J. A., & Noe, R. A. (1997). Knowledge worker team effectiveness: The role of autonomy, interdependence, team development, and contextual support variables. *Personnel Psychology, 50,* 877–904. doi: 10.1111/j.1744-6570.1997.tb01486.x

Jaussi, K. S., & Dionne, S. D. (2003). Leading for creativity: The role of unconventional leader behavior. *Leadership Quarterly, 14,* 475–498. doi: 10.1016/S1048-9843(03)00048-1

Jo, N. Y., Lee, K. C., Lee, D. S., & Hahn, M. (2015). Empirical analysis of roles of perceived leadership styles and trust on team members' creativity: Evidence from Korean ICT companies. *Computer in Human Behavior, 42,* 149–156. doi: 10.1016/j.chb.2014.03.015

Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology, 89,* 755–768. doi: 10.1037/0021-9010.89.5.755

Judge, T. A., Piccolo, R. F., & Ilies, R. (2004). The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology, 89,* 36–51. doi: 10.1037/0021-9010.89.1.36

Jung, D. I. (2001). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal, 13,* 185–195. doi: 10.1207/S15326934CRJ1302_6

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47,* 263–291. doi: 10.2307/1914185

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of Applied Psychology, 88,* 246–255. doi: 10.1037/0021-9010.88.2.246

Kark, R., & Van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *Academy of Management Review, 32,* 500–528. doi: 10.5465/AMR.2007.24351846

Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership: Their meaning and measurement. *Organizational Behavior and Human Performance, 22,* 375–403. doi: 10.1016/0030-5073(78)90023-5

Khazanchi, S., & Masterson, S. S. (2011). Who and what is fair matters: A multi-foci social exchange model of creativity. *Journal of Organizational Behavior, 32,* 86–106. doi: 10.1002/job.682

Kim, J. G., & Lee, S. Y. (2011). Effects of transformational and transactional leadership on employees' creative behavior: Mediating effects of work motivation and job satisfaction. *Asian Journal of Technology Innovation, 19,* 233–247. doi: 10.1080/19761597.2011.632590

Klehe, U. C., & Anderson, N. (2007). Working hard and working smart: Motivation and ability during typical and maximum performance. *Journal of Applied Psychology, 92,* 978–992. doi: 10.1037/0021-9010.92.4.978

Lanaj, K., Chang, C. H., & Johnson, R. E. (2012). Regulatory focus and work-related outcomes: A meta-analysis. *Psychological Bulletin, 138,* 998–1034. doi: 10.1037/a0027723

Larson, J. R. (1986). Supervisors' performance feedback to subordinates: The impact of subordinate performance valence and outcome dependence. *Organizational Behavior and Human Decision Processes, 37,* 391–408. doi: 10.1016/0749-5978(86)90037-3

Leung, K., Chen, T., & Chen, G. (2014). Learning goal orientation and creative performance: The differential mediating roles of challenge and enjoyment

intrinsic motivations. *Asia Pacific Journal of Management, 31,* 811–834. doi: 10.1007/s10490-013-9367-3

Li, C., Zhao, H., & Begley, T. M. (2015). Transformational leadership dimensions and employee creativity in China: A cross-level analysis. *Journal of Business Research, 68,* 1149–1156. doi: 10.1016/j.jbusres.2014.11.009

Liao, H., Liu, D., & Loi, R. (2010). Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal, 53,* 1090–1109. doi: 10.5465/AMJ.2010.54533207

Liberman, N., Idson, L. C., Camacho, C. J., & Higgins, E. T. (1999). Promotion and prevention choices between stability and change. *Journal of Personality and Social Psychology, 77,* 1135–1145. doi: 10.1037/0022-3514.77.6.1135

Liden, R. C., & Maslyn, J. M. (1998). Multidimensionality of leader-member exchange: An empirical assessment through scale development. *Journal of Management, 24,* 43–72. doi: 10.1177/014920639802400105

Livingston, J. S. (1969). Pygmalion in management. *Harvard Business Review*, *47(4)*, 81–89.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance.* Englewood Cliffs, NJ: Prentice-Hall.

Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83,* 854–864. doi: 10.1037//0022-3514.83.4.854

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods.

Multivariate Behavioral Research, 39, 99–128. doi: 10.1207/s15327906mbr3901_4

Madjar, N., Greenberg, E., & Chen, Z. (2011). Factors for radical creativity, incremental creativity, and routine, noncreative performance. *Journal of Applied Psychology, 96,* 730–743. doi: 10.1037/a0022416

Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academy of Management Journal, 45,* 757–767. doi: 10.2307/3069309

Mainemelis, C., Kark, R., & Epitropaki, O. (2015). Creative leadership: A multi-context conceptualization. *Academy of Management Annals, 9,* 393–482. doi: 10.1080/19416520.2015.1024502

Manzoni, J. F., & Barsoux, J. L. (1998). The set-up-to-fail syndrome. *Harvard Business Review, 76(2),* 101–113.

Martinaityte, I., & Sacramento, C. A. (2013). When creativity enhances sales effectiveness: The moderating role of leader-member exchange. *Journal of Organizational Behavior, 34,* 974–994. doi: 10.1002/job.1835

Martinko, M. J., Harvey, P., & Douglas, S. C. (2007). The role, function, and contribution of attribution theory to leadership: A review. *Leadership Quarterly, 18,* 561–585. doi: 10.1016/j.leaqua.2007.09.004

Masuch, M. (1985). Vicious circles in organizations. *Administrative Science Quarterly, 30,* 14–33. doi: 10.2307/2392809

McMahon, S. R., & Ford, C. M. (2013). Heuristic transfer in the relationship between leadership and employee creativity. *Journal of Leadership & Organizational Studies, 20,* 69–83. doi: 10.1177/1548051812465894

Mehrabian, A., & Stefl, C. A. (1995). Basic temperament components of loneliness, shyness, and conformity. *Social Behavior and Personality, 23,* 253–263. doi: 10.2224/sbp.1995.23.3.253

Mintzberg, H. (1998). Covert leadership: Notes – Knowledge workers respond to inspiration, not supervision. *Harvard Business Review, 76(6),* 140–147.

Mitchell, T. R., & Kalb, L. S. (1982). Effects of job experience on supervisor attributions for a subordinate's poor performance. *Journal of Applied Psychology, 67,* 181–188. doi: 10.1037/0021-9010.67.2.181

Mitchell, T. R., & Wood, R. E. (1980). Supervisor's responses to subordinate poor performance: A test of an attributional model. *Organizational Behavior and Human Performance, 25,* 123–138. doi: 10.1016/0030-5073(80)90029-X

Moss, S. A., & Ritossa, D. A. (2007). The impact of goal orientation on the association between leadership style and follower performance, creativity and work attitudes. *Leadership, 3,* 433–456. doi: 10.1177/1742715007082966

Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin, 103,* 27–43. doi: 10.1037/0033-2909.103.1.27

Mumford, M. D., & Licuanan, B. (2004). Leading for innovation: Conclusions, issues, and directions. *Leadership Quarterly, 15,* 163–171. doi: 10.1016/j.leaqua.2003.12.010

Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *Leadership Quarterly, 13,* 705–750. doi: 10.1016/S1048-9843(02)00158-3

Muñoz-Doyague, M. F., & Nieto, M. (2012). Individual creativity performance and the quality of interpersonal relationships. *Industrial Management & Data Systems, 112,* 125–145. doi: 10.1108/02635571211193671

Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide.* Seventh edition. Los Angeles, CA: Muthén & Muthén.

Neubert, M. J., Wu, C., & Roberts, J. A. (2013). The influence of ethical leadership and regulatory focus on employee outcomes. *Business Ethics Quarterly, 23,* 269–296. doi: 10.5840/beq201323217

O'Reilly, C. A., & Weitz, B. A. (1980). Managing marginal employees: The use of warnings and dismissals. *Administrative Science Quarterly, 25,* 467–484. doi: 10.2307/2392264

Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior, 27,* 257–279. doi: 10.1002/job.376

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal, 39,* 607–634. doi: 10.2307/256657

Oz, S., & Eden, D. (1994). Restraining the Golem: Boosting performance by changing the interpretation of low scores. *Journal of Applied Psychology, 79,* 744–754. doi: 10.1037/0021-9010.79.5.744

Pan, W., Sun, L. Y., & Chow, I. H. S. (2012). Leader-member exchange and employee creativity: Test of a multilevel moderated mediation model. *Human Performance, 25,* 432–451. doi: 10.1080/08959285.2012.721833

Parke, M. R., Seo, M. G., & Sherf, E. N. (2015). Regulating and facilitating: The role of emotional intelligence in maintaining and using positive affect for

creativity. *Journal of Applied Psychology, 100,* 917–934. doi: 10.1037/a0038452

Paulus, P. B., & Nijstad, B. A. (2003). *Group creativity: Innovation through collaboration.* New York: Oxford University Press.

Pelz, D. C. (1963). Relationships between measures of scientific performance and other variables. In C. W. Taylor & F. Barron (Eds.), *Scientific creativity: Its recognition and development* (pp. 302–310). New York: Wiley.

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal, 49,* 327–340. doi: 10.5465/AMJ.2006.20786079

Porter, L. W., & Lawler, E. E. (1968). *Managerial attitudes and performance.* Homewood, IL: Irwin-Dorsey Press

Qu, R., Janssen, O., & Shi, K. (2015). Transformational leadership and follower creativity: The mediating role of follower relational identification and the moderating role of leader creativity expectations. *Leadership Quarterly, 26,* 286–299. doi: 10.1016/j.leaqua.2014.12.004

Reiter-Palmon, R., & Illies, J. J. (2004). Leadership and creativity: Understanding leadership from a creative problem-solving perspective. *Leadership Quarterly, 15,* 55–77. doi: 10.1016/j.leaqua.2003.12.005

Rietzschel, E. F., Slijkhuis, M., & Van Yperen, N. W. (2014). Close monitoring as a contextual stimulator: How need for structure affects the relation between close monitoring and work outcomes. *European Journal of Work and Organizational Psychology, 23,* 394–404. doi: 10.1080/1359432X.2012.752897

Righetti, F., Finkenauer, C., & Rusbult, C. E. (2011). The benefits of interpersonal regulatory fit for individual goal pursuit. *Journal of Personality and Social Psychology, 101,* 720–736. doi: 10.1037/a0023592

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *Leadership Quarterly, 22,* 956–974. doi: 10.1016/j.leaqua.2011.07.014

Roskes, M., De Dreu, C. K. W., & Nijstad, B. A. (2012). Necessity is the mother of invention: Avoidance motivation stimulates creativity through cognitive effort. *Journal of Personality and Social Psychology, 103,* 242–256. doi: 10.1037/a0028442

Ruth, J. E., & Birren, J. E. (1985). Creativity in adulthood and old age: Relations to intelligence, sex, and mode of testing. *International Journal of Behavioral Development, 8,* 99–109. doi: 10.1177/016502548500800107

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55,* 68–78. doi: 10.1037//0003-066X.55.1.68

Said, R., Nijstad, B. A., Janssen, O., & Vriend, T. (2015). Regulating creativity: Why and how leader regulatory focus affects employee creativity. *Manuscript in preparation*, University of Groningen.

Schniederjans, M. J., & Stoeberl, P. A. (1983). Coping strategies for managing the ineffective subordinate in nursing administration. *Journal of Advanced Nursing, 8,* 201–206. doi: 10.1111/j.1365-2648.1983.tb00314.x

Schriesheim, C. A., & Stogdill, R. M. (1975). Differences in factor structure across three versions of the Ohio state leadership scales. *Personnel Psychology, 28,* 189–206. doi: 10.1111/j.1744-6570.1975.tb01380.x

Schurer Lambert, L., Tepper, B. J., Carr, J. C., Holt, D. T., & Barelka, A. J. (2012). Forgotten but not gone: An examination of fit between leader consideration and initiating structure needed and received. *Journal of Applied Psychology, 97,* 913–930. doi: 10.1037/a0028970

Scott, R. K. (1995). Creative employees: A challenge to managers. *Journal of Creative Behavior, 29,* 64–71. doi: 10.1002/j.2162-6057.1995.tb01424.x

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*, 580–607. doi: 10.2307/256701

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *Leadership Quarterly, 15,* 33–53. doi: 10.1016/j.leaqua.2003.12.004

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2000). Matching creativity requirements and the work environment: Effects on satisfaction and intentions to leave. *Academy of Management Journal, 43,* 215–223. doi: 10.2307/1556378

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management, 30,* 933–958. doi: 10.1016/j.jm.2004.06.007

Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal, 46,* 703–714. doi: 10.2307/30040662

Si, S., & Wei, F. (2012). Transformational and transactional leaderships, empowerment climate, and innovation performance: A multilevel analysis in the Chinese context. *European Journal of Work and Organizational Psychology, 21,* 299–320. doi: 10.1080/1359432X.2011.570445

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling.* London: Sage Publications.

Sonnentag, S., & Frese, M. (2002). Performance concepts and performance theory. In S. Sonnentag (Ed.), *Psychological management of individual performance* (pp. 3–25). Chichester, UK: John Wiley & Sons, Ltd.

Stogdill, R. M. (1950). Leadership, membership and organization. *Psychological Bulletin, 47,* 1–14. doi: 10.1037/h0053857

Stogdill, R. M. (1963). *Manual for the leader behavior description questionnaire, form XII.* Columbus, PH: Bureau of Business Research, Ohio State University.

Strickland, S., & Towler, A. (2011). Correlates of creative behaviour. The role of leadership and personal factors. *Canadian Journal of Administrative Sciences, 28,* 41–51. doi: 10.1002/CJAS.157

Sue-Chan, C., Wood, R. E., & Latham, G. P. (2012). Effect of a coach's regulatory focus and an individual's implicit person theory on individual performance. *Journal of Management, 38,* 809–835. doi: 10.1177/0149206310375465

Sun, L. Y., Zhang, Z., Qi, J., & Chen, Z. X. (2012). Empowerment and creativity: A cross-level investigation. *Leadership Quarterly, 23,* 55–65. doi: 10.1016/j.leaqua.2011.11.005

Taggar, S., & Neubert, M. J. (2008). A cognitive (attributions)-emotion model of observer reactions to free-riding poor performers. *Journal of Business and Psychology, 22,* 167–177. doi: 10.1007/s10869-008-9058-0

Tierney, P. (2008). Leadership and employee creativity. In J. Zhou & C. E. Shalley (Eds.), *Handbook of organizational creativity* (pp. 95–123). New York: Erlbaum.

Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal, 45,* 1137–1148. doi: 10.2307/3069429

Tierney, P., & Farmer, S. M. (2004). The Pygmalion process and employee creativity. *Journal of Management, 30,* 413–432. doi: 10.1016/j.jm.2002.12.001

Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology, 96,* 277–293. doi: 10.1037/a0020952

Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology, 52,* 591–620. doi: 10.1111/j.1744-6570.1999.tb00173.x

Trahan, W. A., & Steiner, D. D. (1994). Factors affecting supervisors' use of disciplinary actions following poor performance. *Journal of Organizational Behavior, 15,* 129–139. doi: 10.1002/job.4030150203

Tse, H. H. M., & Chiu, W. C. K. (2014). Transformational leadership and job performance: A social identity perspective. *Journal of Business Research, 67,* 2827–2835. doi: 10.1016/j.jbusres.2012.07.018

Unsworth, K. (2001). Unpacking creativity. *Academy of Management Review, 26,* 289–297. doi: 10.2307/259123

Unsworth, K. L., Wall, T. D., & Carter, A. (2005). Creative requirement: A neglected construct in the study of employee creativity?. *Group & Organization Management, 30,* 541–560. doi: 10.1177/1059601104267607

Van Dijk, D., & Kluger, A. N. (2004). Feedback sign effect on motivation: Is it moderated by regulatory focus?. *Applied Psychology: An International Review, 53,* 113–135. doi: 10.1111/j.1464-0597.2004.00163.x

Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32,* 1084–1105. doi: 10.1002/job.725

Van Dyne, L., Jehn, K. A., & Cummings, A. (2002). Differential effects of strain on two forms of work performance: Individual employee sales and creativity. *Journal of Organizational Behavior, 23,* 57–74. doi: 10.1002/job.127

Vaughn, L. A., Baumann, J., & Klemann, C. (2008). Openness to experience and regulatory focus: Evidence of motivation from fit. *Journal of Research in Personality, 42,* 886–894. doi: 10.1016/j.jrp.2007.11.008

Venkataramani, V., Richter, A. W., & Clarke, R. (2014). Creative benefits from well-connected leaders: Leader social network ties as facilitators of employee radical creativity. *Journal of Applied Psychology, 99,* 966–975. doi: 10.1037/a0037088

Vessey, W. B., Barrett, J. D., Mumford, M. D., Johnson, G., & Litwiller, B. (2014). Leadership of highly creative people in highly creative fields: A historiometric study of scientific leaders. *Leadership Quarterly, 25,* 672–691. doi: 10.1016/j.leaqua.2014.03.001

Volmer, J., Spurk, D., & Niessen, C. (2012). Leader-member exchange (LMX), job autonomy, and creative work involvement. *Leadership Quarterly, 23,* 456–465. doi: 10.1016/j.leaqua.2011.10.005

Vroom, V. H. (1964). *Work and motivation.* San Francisco, CA: Jossey-Bass.

Wallace, J. C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology, 59,* 529–557. doi: 10.1111/j.1744-6570.2006.00046.x

Wallace, J. C., Johnson, P. D., & Frazier, M. L. (2009). An examination of the factorial, construct, and predictive validity and utility of the regulatory focus at work scale. *Journal of Organizational Behavior, 30,* 805–831. doi: 10.1002/job.572

Walter, F., Lam. C. K., van der Vegt, G. S., Huang, X., & Miao, Q. (2015). Abusive supervision and subordinate performance: Instrumentality considerations in the emergence and consequences of abusive supervision. *Journal of Applied Psychology, 100,* 1056–1072. doi: 10.1037/a0038513

Wang, C. J., Tsai, H. T., & Tsai, M. T. (2014). Linking transformational leadership and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity. *Tourism Management, 40,* 79–89. doi: 10.1016/j.tourman.2013.05.008

Wang, C. W., & Horng, R. Y. (2002). The effects of creative problem solving training on creativity, cognitive type and R&D performance. *R&D Management, 32,* 35–45. doi: 10.1111/1467-9310.00237

Wang, C. W., Wu, J. J., & Horng, R. Y. (1999). Creative thinking ability, cognitive type and R&D performance. *R&D Management, 29,* 247–254. doi: 10.1111/1467-9310.00134

Wang, P., & Rode, J. C. (2010). Transformational leadership and follower creativity: The moderating effects of identification with leader and organizational climate. *Human Relations, 63,* 1105–1128. doi: 10.1177/0018726709354132

Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal, 40,* 82–111. doi: 10.2307/257021

Weick, K. E. (1979). Cognitive processes in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 41–74). Greenwich, CT: JAI Press.

Weisberg, R. W. (1999). Creativity and knowledge. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 226–250). New York: Cambridge University Press.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review, 18,* 293–321. doi: 10.2307/258761

Wu, C., McMullen, J. S., Neubert, M. J., & Yi, X. (2008). The influence of leader regulatory focus on employee creativity. *Journal of Business Venturing, 23,* 587–602. doi: 10.1016/j.jbusvent.2007.09.005

Yang, Y. J., & Wang, C. C. (2010). Creativity among R&D professional: Supervisory support and personality traits. *Asian Journal of Technology Innovation, 18,* 229–248. doi: 10.1080/19761597.2010.9668689

Yukl, G. A. (2010). *Leadership in organizations.* New Jersey: Pearson Education, Inc.

Zhang, J., Fan, Y., & Zhang, Z. (2015). The role of power motivation in creativity: A moderated mediation model. *Social Behavior and Personality, 43,* 613–628. doi: 10.2224/sbp.2015.43.4.613

Zhang, X., & Bartol, K. M. (2010a). The influence of creative process engagement on employee creative performance and overall job performance: A curvilinear assessment. *Journal of Applied Psychology, 95,* 862–873. doi: 10.1037/a0020173

Zhang, X., & Bartol, K. M. (2010b). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation,

and creative process engagement. *Academy of Management Journal, 53,* 107–128. doi: 10.5465/AMJ.2010.48037118

Zhang, Y., LePine, J. A., Buckman, B. R., & Wei, F. (2014). It's not fair … or is it? The role of justice and leadership in explaining work stressor-job performance relationships. *Academy of Management Journal, 57,* 675–697. doi: 10.5465/amj.2011.1110

Zhang, Z., Jia, M., & Gu, L. (2012). Transformational leadership in crisis situations: Evidence from the People's Republic of China. *International Journal of Human Resource Management, 23,* 4085–4109. doi: 10.1080/09585192.2011.639027

Zhao, H. D., Kessel, M., & Kratzer, J. (2014). Supervisor-subordinate relationship, differentiation, and employee creativity: A self-categorization perspective. *Journal of Creative Behavior, 48,* 165–184. doi: 10.1002/jocb.46

Zhou, J. (2003). When the presence of creative coworkers is related to creativity: Role of supervisor close monitoring, development feedback, and creative personality. *Journal of Applied Psychology, 88,* 413–422. doi: 10.1037/0021-9010.88.3.413

Zhou, J., & George, J. M. (2003). Awakening employee creativity: The role of leader emotional intelligence. *Leadership Quarterly, 14,* 545–568. doi: 10.1016/S1048-9843(03)00051-1

Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology and Organizational Behavior, 1,* 333–359. doi: 10.1146/annurev-orgpsych-031413-091226

Zhu, W., Wang, G., Zheng, X., Liu, T., & Miao, Q. (2013). Examining the role of personal identification with the leader in leadership effectiveness: A partial

nomological network. *Group & Organizational Management, 38,* 36–67. doi: 10.1177/1059601112456595

APPENDIX A

Article	Correlation[a]	Dimension/specification of leadership variable[b]
Transformational leadership: Mean = .18, Median = .17, Range = .00 to .48		
Afsar, Badir, & Bin Saeed (2014)	.48**	
Basu & Green (1997)[c]	.03	
Chen & Chang (2013)	.35*	
Cheung & Wong (2011)	.24**	
Deichmann & Stam (2015)	.04	
Eisenbeiß & Boerner (2013)	.11*	
Gilmore, Hu, Wei, Tetrick, & Zaccaro (2013)	.09	
	.05	Intellectual stimulation
	.08	Consideration
	.12	Inspirational motivation
	.08	Idealized influence
Gong, Huang, & Farh (2009)	.18*	
Gumusluoglu & Ilsev (2009)[c]	.17*	
Henker, Sonnentag, & Unger (2015)	.32*	
Kim & Lee (2011)	.15**	Intellectual stimulation
	.22**	Individual consideration
	.21**	Inspirational motivation
	.18**	Idealized influence
Leung, Chen, & Chen (2014)	.00	Intellectual stimulation
Li, Zhao, & Begley (2015)	.14**	
	.12**	Individual consideration
	.15**	Moral modeling
	.13**	Charisma
	.11*	Vision articulation
McMahon & Ford (2013)	.13*	Intellectual stimulation
Moss & Ritossa (2007)	.19	Intellectual stimulation
	.25*	Individual consideration
	.15	Inspirational motivation
	.12	Idealized attributes
	.22*	Idealized behavior
Qu, Janssen, & Shi (2015)	.23***	
Shin & Zhou (2003)	.22**	
Si & Wei (2012)	.41***	
Strickland & Towler (2011)[c]	.13	
Sun, Zhang, Qi, & Chen (2012)	.17**	
Tse & Chiu (2014)	.21**	Individual-focused transformational leadership
	.07	Group-focused transformational leadership
Wang & Rode (2010)	.19*	
Wang, Tsai, & Tsai (2014)	.19**	
Zhang, LePine, Buckman, & Wei (2014)	.10	
Zhu, Wang, Zheng, Liu, & Miao (2013)	.07	

APPENDIX A (continued)

Article	Correlation[a]	Dimension/specification of leadership variable[b]
Transactional leadership: Mean = .02, Median = .11, Range = -.28 to .20		
Deichmann & Stam (2015)	.13	Contingent reward
Kim & Lee (2011)	.20**	Contingent reward
	.02	Management by exception
Moss & Ritossa (2007)	.14	Contingent reward
	-.03	Management by exception active
	-.06	Management by exception passive
Si & Wei (2012)	-.28***	
Zhang, LePine, Buckman, & Wei (2014)	.12*	Contingent reward
Supervisor support: Mean = .09, Median = .10, Range = -.19 to .25		
Amabile, Schatzel, Moneta, & Kramer (2004)	.18*	
Axtell, Holman, Unsworth, Wall, Waterson, & Harrington (2000)	-.04	
Baer & Oldham (2006)	.02	Support for creativity from supervisor and coworkers
Basu & Green (1997)[c]	.17**	
Cheung & Wong (2011)	.17*	Leader task support
	.18*	Leader relations support
Frese, Teng, & Wijnen (1999)[d]	.05, .06	
George & Zhou (2007)	.13	
Madjar, Oldham, & Pratt (2002)	.20**	Work support from supervisor and coworkers
Ohly, Sonnentag, & Pluntke (2006)[d]	.12†, -.12†	
Oldham & Cummings (1996)[d]	.14, -.14, -.19	
Parke, Seo, & Sherf (2015)	.09	Support for creativity from supervisor and coworkers
Tierney & Farmer (2002)[e]	.05, -.10	
Tierney & Farmer (2004)	.17**	
Unsworth, Wall, & Carter (2005)[d]	.11***, .17***	
Yang & Wang (2010)	.02	Boundary spanner
	.02	Facilitator
	.08	Innovator
	.06	Director
Zhang & Bartol (2010b)	.25**	
Zhang, Fan, & Zhang (2015)	.10**	

APPENDIX A (continued)

Article	Correlation[a]	Dimension/specification of leadership variable[b]
Monitoring: Mean = -.11, Median = -.22, Range = -.45 to .25		
Choi, Anderson, & Veillette (2009)	.13	
George & Zhou (2001)	-.26**	
Gevers & Demerouti (2013)	.25	Supervisors' temporal reminders
Zhou (2003)[e]	-.45*, -.22*	
Leader-member exchange: Mean = .21, Median = .20, Range = -.09 to .52		
Atwater & Carmeli (2009)	.30***	
Basu & Green (1997)[c]	.22**	
Clegg, Unsworth, Epitropaki, & Parker (2002)	-.09	
Gu, Tang, & Jiang (2015)	.46***	
Khazanchi & Masterson (2011)	.14†	
Liao, Liu, & Loi (2010)	.25**	
Martinaityte & Sacramento (2013)	.25**	
Muñoz-Doyague & Nieto (2012)	.52**	
Pan, Sun, & Chow (2012)	.19**	
Parke, Seo, & Sherf (2015)	-.02	
Tierney, Farmer, & Graen (1999)[d]	.30**, .17*, .06	
Van Dyne, Jehn, & Cummings (2002)	.37***	
Venkataramani, Richter, & Clarke (2014)	.04	
Volmer, Spurk, & Niessen (2012)	.17*	
Zhang, Fan, & Zhang (2015)	.21**	
Zhao, Kessel, & Kratzer (2014)	.12*	

Notes. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

[a] For the mean and median of correlations, 1) we used the overall leadership construct rather than its underlying dimensions; when only dimensions were available, we used the average correlation of the dimensions, and 2) we averaged the correlations when multiple measures of creativity were included within one sample.

[b] When nothing stated, the leadership construct as a whole is examined, otherwise the dimension or specification of the leadership construct is stated

[c] Creativity measure includes items of idea generation and idea implementation

[d] Article includes multiple measures of creativity within one sample

[e] Article includes multiple samples

SAMENVATTING

Creativiteit van medewerkers is essentieel voor het effectief functioneren van organisaties. Leidinggevenden (managers, teamleiders) doen dan ook hun best om creativiteit onder hun medewerkers te stimuleren. De relatie tussen leiderschap en creativiteit is echter complex, en resultaten van voorgaand onderzoek laten geen eenduidig beeld zien en zijn enigszins teleurstellend. In dit proefschrift werpen wij een frisse blik op deze relatie door ons te richten op de essentie van leiderschap: beïnvloeding van medewerkers door doelen te stellen. Wij gebruiken een relatief nieuw leiderschapsconstruct genaamd 'leader regulatory focus' (regulatiefocus van leidinggevenden) om te onderzoeken hoe leidinggevenden de creativiteit van medewerkers beïnvloeden door promotiedoelen (promotiefocus) dan wel preventiedoelen (preventiefocus) te stellen.

Met het stellen van promotiedoelen willen leidinggevenden medewerkers motiveren voor de maximale winst te gaan, verbeteringen en veranderingen door te voeren, en hun idealen na te jagen. Waarschijnlijk het meest iconische en extreme voorbeeld van een promotiegerichte leidinggevende is Jordan Belfort, beter bekend als de echte "Wolf of Wall Street". Belfort was geobsedeerd door (financiële) winst, en had geen oog voor potentiële verliezen. Belfort motiveerde zijn medewerkers om de situatie constant te verbeteren, en hierdoor werden zijn medewerkers bij Stratton Oakmont erg creatief in het vinden van complexe financiële constructies om veel winst te boeken.

Met het stellen van preventiedoelen willen leidinggevenden medewerkers motiveren om verliezen te vermijden, de status-quo te behouden, achteruitgang te vermijden, en plichten en verantwoordelijkheden na te komen. Een voorbeeld van een preventiegerichte leidinggevende is Bob Dudley, de CEO van BP, die moest omgaan

met de gevolgen van de Deepwater Horizon olieramp in de Golf van Mexico. Hij maakte veiligheid en risicomanagement tot belangrijke doelen, en medewerkers werden gestimuleerd om procedures en protocollen strikt na te leven. Dudley's leiderschap was niet bedoeld om dingen te verbeteren, maar om het ergste te vermijden. Dudley wilde verder falen vermijden, en daardoor was creativiteit het laatste waar medewerkers zich aan wilden wagen. In de drie empirische hoofdstukken van dit proefschrift onderzoeken wij hoe, waarom, en wanneer leader regulatory focus is gerelateerd aan de creativiteit van medewerkers. De belangrijkste resultaten beschrijven wij hier.

Leader regulatory focus en creativiteit van medewerkers: het hoe

In hoofdstuk 2 onderzoeken wij *hoe* leader regulatory focus van invloed is op de creativiteit van medewerkers. Door gebruik te maken van Higgins' (1997) regulatory focus theorie en Kark en Van Dijk's (2007) raamwerk over de rol van regulatory focus in leiderschapsprocessen, stellen wij dat een promotiefocus van leidinggevenden positief is gerelateerd aan de creativiteit van medewerkers, terwijl een preventiefocus een negatieve voorspeller is van creatieve gedragingen. Wij beargumenteren dat promotiegericht leiderschap medewerkers motiveert om maximale doelen (winsten, vooruitgang, en idealen) na te streven. Hierdoor worden medewerkers gestimuleerd om progressie te boeken door gebruik te maken van een exploratieve manier van denken en doen. Medewerkers zullen gretig zijn om groei en verandering te bewerkstelligen, waardoor ze routines en bestaande gedachtepatronen gaan doorbreken en creatief gedrag gaan vertonen. Daarentegen motiveert preventiegericht leiderschap medewerkers om minimale doelen (verliezen vermijden, veiligheid, en verplichtingen) na te streven, waardoor medewerkers gestimuleerd worden om de status-quo te handhaven en falen te vermijden. In dit streven zullen

medewerkers een conservatieve en waakzame manier van werken hebben, zich richten op hun plichten en verantwoordelijkheden, en daardoor weinig creativiteit laten zien in hun werk.

Om dit empirisch te testen hebben we in hoofdstuk 2 data gebruikt die we hebben verzameld over twee meetmomenten onder medewerkers en leidinggevenden van verschillende bedrijven in Nederland. De resultaten lieten inderdaad zien dat promotiegericht leiderschap een positieve relatie heeft met creativiteit van medewerkers, terwijl deze relatie negatief was voor preventiegericht leiderschap. Gezien de doelgerichte aard van leader regulatory focus veronderstellen wij in hoofdstuk 2 bovendien dat de effecten van de door leidinggevenden gestelde promotie- en preventiedoelen op de creativiteit van medewerkers standhouden wanneer er wordt gecontroleerd voor andere leiderschapsconstructen die deze doelen niet specificeren (we onderzoeken hier zogeheten incrementele predictieve validiteit). Onze empirische resultaten bevestigden dit. We zagen dat leader regulatory focus een effect heeft op de creativiteit van medewerkers bovenop de effecten van vier gevestigde leiderschapsconstructen (het aanbrengen van structuur, consideratie, transformationeel leiderschap, en leiderschap gericht op contingente beloningen).

Leader regulatory focus en creativiteit van medewerkers: het waarom

In alle drie de empirische hoofdstukken hebben we onderzocht *waarom* leader regulatory focus de creativiteit van medewerkers beïnvloedt. In hoofdstuk 2 stellen wij dat een promotiefocus en preventiefocus van leidinggevenden via verschillende processen (mediatoren) gerelateerd is aan de creativiteit die medewerkers laten zien. Door gebruik te maken van zelf-determinatie theorie (self-determination theory; Ryan & Deci, 2000) argumenteren wij dat medewerkers die promotiegericht leiderschap ervaren idealen en innerlijke behoeften gaan nastreven wat ertoe leidt dat zij meer

intrinsieke motivatie voor creativiteit krijgen. Intrinsieke motivatie wordt gezien als een van de belangrijkste voorspellers van creativiteit (Amabile, 1988; Ryan & Deci, 2000). Preventiegericht leiderschap, aan de andere kant, gaat voornamelijk over externe druk en verplichtingen, welke niet leiden tot het gevoel van zelf-determinatie dat nodig is voor het ontstaan van intrinsieke motivatie. In plaats daarvan zorgt preventiegericht leiderschap ervoor dat medewerkers zich gaan conformeren aan hun leidinggevende, omdat dit de kans op falen en verliezen minimaliseert. Hierdoor volgen medewerkers de gedachten, acties, en gedragingen van de leidinggevende, en zullen ze zelf geen creatieve acties initiëren.

De resultaten van het empirische onderzoek in hoofdstuk 2 laten inderdaad zien dat promotiegericht en preventiegericht leiderschap via de bovengenoemde verschillende processen een relatie hebben met creatief gedrag van medewerkers. De resultaten van hoofdstuk 4 laten nogmaals zien dat het conformerend gedrag van medewerkers een belangrijke schakel is in de relatie tussen preventiegericht leiderschap en creativiteit. In dat hoofdstuk hebben we gebruik gemaakt van een longitudinale studie met drie meetmomenten onder promovendi en promotores van een universiteit in Nederland. Hiermee kunnen we deze resultaten dus goed generaliseren naar verschillende typen organisaties en soorten werk.

In hoofdstuk 3 onderzoeken wij hoe verwachtingen die leidinggevenden hebben over de creativiteit van hun medewerkers de relatie kan verklaren tussen promotiegericht leiderschap en radicale creativiteit van medewerkers. Door gebruik te maken van Ford's (1996) theorie van creatieve actie (theory of creative action) stellen wij dat creativiteitsverwachtingen van de leidinggevende belangrijk zijn voor radicale creativiteit, omdat medewerkers moeten ervaren dat creativiteit gewaardeerd, verwacht, en beloond wordt voordat zij met compleet nieuwe en revolutionaire ideeën

komen. Dus, medewerkers zien in deze verwachtingen een legitimering om radicaal nieuwe ideeën te ontwikkelen waar mogelijk grote risico's aan zitten. De door de leidinggevende gestelde promotiedoelen impliceren dat creativiteit van de medewerkers wordt verwacht, omdat promotiedoelen gericht zijn op vooruitgang en verandering. De resultaten van een grootschalig onderzoek onder medewerkers en leidinggevenden van meerdere organisaties in Nederland gaven inderdaad aan dat deze creativiteitsverwachtingen van de leidinggevende de relatie tussen promotiegericht leiderschap en radicale creativiteit van medewerkers kan verklaren.

Leader regulatory focus en creativiteit van medewerkers: het wanneer

In hoofdstuk 3 onderzoeken wij ook *wanneer* leader regulatory focus een invloed heeft op creativiteit van medewerkers. Wij belichten twee belangrijke randvoorwaarden (moderatoren) van het effect van promotiegericht leiderschap op de radicale creativiteit van medewerkers: de uitwisselingsrelatie tussen leidinggevende en medewerker ("leader-member exchange") en het vertrouwen dat medewerkers hebben in hun creatief vermogen ("creative self-efficacy"). Doelen worden gecommuniceerd naar en overgedragen aan medewerkers binnen een sociale uitwisselingsrelatie tussen leidinggevenden en medewerkers. Wij stellen in hoofdstuk 3 dat naarmate deze uitwisselingsrelatie van hogere kwaliteit is promotiegericht leiderschap gepaard gaat met sterkere creativiteitsverwachtingen richting de medewerkers. Bovendien veronderstellen wij dat medewerkers vertrouwen moeten hebben in hun vermogen om creatief te zijn, om zo in staat te zijn om deze creativiteitsverwachtingen om te zetten in radicaal creatief gedrag. Leidinggevenden kunnen nog zoveel creativiteit verwachten van hun medewerkers, maar wanneer medewerkers weinig vertrouwen hebben in hun capaciteit om creatief te zijn zullen zij deze verwachtingen niet waarmaken. De resultaten lieten inderdaad zien dat

promotiegericht leiderschap de sterkste invloed heeft op radicale creativiteit van medewerkers wanneer medewerkers een goede uitwisselingsrelatie hebben met hun leidinggevende en overtuigd zijn van hun eigen creatieve capaciteiten.

Een neerwaartse prestatiespiraal

In hoofdstuk 4 onderzoeken wij hoe lagere werkprestaties van medewerkers zowel een aanleiding als een uiteindelijke consequentie kunnen zijn van preventiegericht leiderschap, en we veronderstellen dat door de toepassing van preventiegericht leiderschap een neerwaartse prestatiespiraal kan ontstaan. Preventiegericht leiderschap kan een reactie zijn op medewerkers die slecht presteren, omdat leidinggevenden willen vermijden dat de prestaties nog verder verslechteren. Maar, als een gevolg van dit type leiderschap conformeren medewerkers zich aan hun leidinggevende en worden daardoor minder creatief (zoals we ook in hoofdstuk 2 lieten zien). Voor de "creatieve" doelgroep die we hebben onderzocht in hoofdstuk 4, namelijk promovendi, is creativiteit een belangrijke voorspeller van algehele prestaties op het werk. Dus, we veronderstellen dat vanwege de verlaging in creativiteit, medewerkers ook minder goed gaan presteren. De longitudinale empirische resultaten gaven inderdaad aan dat slechte voorgaande prestaties een trigger kunnen zijn van preventiegericht leiderschap, en dat een dergelijke leiderschapsreactie inderdaad een neerwaartse prestatiespiraal ontketent.

Conclusie

Het doel van dit proefschrift was om te onderzoeken hoe, waarom, en wanneer promotiegericht en preventiegericht leiderschap van invloed zijn op creativiteit van medewerkers. Door terug te gaan naar de essentie van leiderschap, namelijk beïnvloeding van medewerkers door het stellen van doelen, verfrissen wij de leiderschapsliteratuur en geven wij een nieuw perspectief voor de manier waarop

leiderschap en creativiteit zijn gerelateerd. De resultaten van de drie empirische hoofdstukken laten zien dat leidinggevenden, door promotiegericht of preventiegericht leiderschap, een substantiële invloed kunnen hebben op de creativiteit van medewerkers. Zodoende legt dit proefschrift een theoretische basis en biedt het empirische evidentie voor de rol die promotiegericht en preventiegericht leiderschap spelen in het stimuleren dan wel verhinderen van creativiteit van medewerkers. Daarnaast geeft dit proefschrift managers praktische inzichten in en oplossingen voor hoe ze creatief gedrag onder hun medewerkers kunnen stimuleren. Dit proefschrift laat zien dat we opnieuw moeten nadenken over de manier waarop leiderschap daadwerkelijk een invloed heeft op de creativiteit van medewerkers.

DANKWOORD

De eerste woorden van dit dankwoord heb ik geschreven bij mijn familie in het zonnige Nahf, Israël. Soms moet je er even tussen uit om te beseffen wat mensen eigenlijk voor je betekenen, hoe ze je hebben gevormd en hoeveel je aan ze te danken hebt. Dit proefschrift was nooit tot stand gekomen zonder de hulp van een aantal mensen. Ik kan hier niet iedereen bedanken, maar ik zou graag enkele mensen willen bedanken voor hun hulp, inzichten, wijsheden, steun en liefde.

Te beginnen met mijn begeleiders, Bernard en Onne. Ik had mij geen betere begeleiders kunnen wensen. Ik had dit proefschrift niet kunnen afmaken zonder jullie hulp en genialiteit. Jullie bedenken dingen die ik nog niet eens in mijn dromen zie. Ik vind het ongelofelijk hoe makkelijk jullie met oplossingen komen voor de moeilijkste vraagstukken. Prachtig om te zien met hoeveel passie en motivatie jullie je vak uitoefenen. Bernard, een geweldig wetenschapper, maar boven alles een fijn persoon. Altijd beschikbaar om mijn vragen te beantwoorden, voor gewoon een praatje, of om een biertje te drinken. Wat ik vooral zal meenemen uit onze samenwerking is dat je me liet zien dat eigenlijk van alles chocola te maken is. Dan Onne, een bedachtzaam onderzoeker, en gewoon een goede vent. Over een simpele vraag konden we zo tijden lang discussiëren. Ik heb veel van je mogen leren, maar wat mij altijd bij zal blijven is dat je me hebt geleerd dat kwaliteit nou eenmaal tijd kost. Gedurende het laatste deel van mijn promotietraject had ik met jullie elke twee weken ons twee uur durende overleg. Vaker dan eens liep dit uit – ook, of eigenlijk vooral, omdat we eerst over sport, vakantie, familie, muziek, en andere zaken aan het praten waren. Juist dat maakt onze samenwerking zo speciaal: werk is belangrijk, maar sociale zaken zijn net zo belangrijk. Bernard en Onne, bedankt voor jullie hulp, wijsheden en toewijding, die mij in staat hebben gesteld mijn proefschrift af te ronden.

En dan over naar Tim. Ik wilde de grap maken dat dit proefschrift een jaar eerder af zou zijn geweest zonder jou, maar het simpele feit is dat ik dit proefschrift waarschijnlijk niet had afgemaakt als jij er niet was geweest. Je hebt mij geholpen waar en wanneer je kon, en je zette zelfs je eigen werk opzij om mij te helpen. Onze talrijke koffie-drink-sessies (onder het mom van werkoverleg) waren het hoogtepunt van de dag. Juist deze sessies waren zo belangrijk: het zorgde ervoor dat ik zaken in een ander – luchtiger – daglicht kon bekijken. We waren zelfs zo vaak bij elkaar dat mensen bijnamen voor ons gingen bedenken: knabbel en babbel, jut en jul, de dikke en de dunne. Ik houd het op jaloezie, omdat ik iets heb wat zij waarschijnlijk niet hebben: een Vriend voor het leven. Ik kan je niet genoeg bedanken, maar bij deze doe ik het toch: bedankt voor alles.

Als laatste van onze afdeling zou ik Tineke en Hilde graag willen bedanken. Jullie "huiskamerfunctie" is onmisbaar binnen onze vakgroep. Ik ben blij dat ik altijd bij jullie kon binnen lopen. Soms voor een leuk gesprek, soms om problemen te bespreken. Bedankt dat jullie bijna elke dag een verhaal van mij wilden aanhoren. Dat heeft mij geholpen om door mijn promotietraject te komen.

Ook wil ik graag mijn studenten bedanken die ik heb mogen lesgeven of begeleiden bij het schrijven van hun scriptie. Fantastisch hoe jullie altijd met creatieve en inspirerende ideeën kwamen aanzetten. Jullie zijn diegenen die mij scherp en jong (of jonger?) hielden. Vernieuwend en verfrissend. Bedankt.

En dan zijn er natuurlijk nog mijn vrienden. Ik kan jullie hier niet allemaal persoonlijk bedanken, maar weet dat jullie belangrijk voor mij zijn. Sommigen van jullie ken ik al vanaf groep 1 van de basisschool, anderen kwamen pas later in mijn leven. Mensen die voor altijd in mijn leven zullen blijven. Wat hebben wij een geweldige tijd met elkaar gehad. Feesten, vakanties, studeren (vaak in die volgorde).

Veel leuke dingen, soms serieuze gesprekken of droevige gebeurtenissen: we hebben alles meegemaakt. Al deze dingen hebben mij gevormd tot wie ik nu ben. Bedankt dat jullie er altijd voor me zijn.

En dan mijn familie. Als eerste mijn ouders, Sameeh en Marjon. Ik hoef maar weinig woorden te gebruiken om jullie te bedanken. Als er iets is wat ik van jullie heb geleerd, dan is het wel dat je met onvoorwaardelijke liefde en steun de wereld aan kan. Familie boven alles. Ik hoop dat ik jullie trots heb gemaakt … maar eigenlijk weet ik het antwoord zelf al wel.

Dan mijn broer, Kariem. Zonder jou was ik niet de persoon geworden die ik nu ben en had ik dit dankwoord nooit geschreven. Zoals goede broers doen, hebben we vaker dan eens gedurende onze jeugd (slaande) ruzies gehad. Maar deze ruzies waren altijd al weer snel vergeten, en zo konden we weer over tot de orde van de dag: broers zijn door dik en dun. Ik heb altijd tegen je opgekeken als grote broer, hopelijk heb ik nu iets bereikt waar jij ook tegen op kan kijken.

Als laatste Kirsten, de liefde van mijn leven. Bedankt dat jij altijd jezelf bent gebleven. Dankzij jou ben ik meer mens geworden, en heb ik geleerd dat het soms ook anders kan in het leven. Jij bent een sterker persoon dan ik, en je hebt mij ook sterker gemaakt. Lief en leed hebben we gedeeld, en hopelijk mogen we dit nog lang doen. Je maakt mijn leven zoveel mooier. Mede dankzij jou weet ik weer wat echt belangrijk is in het leven: familie. En onze katten Kleintje en Katu ☺. Ik weet niet wat de toekomst ons gaat brengen, maar één ding weet ik zeker: we gaan een goed leven tegemoet.

En nu klinkt het alsof mijn promotietraject vanzelf ging. Maar ook ik heb mijn moeilijke periodes gekend. Waarom doe ik dit? Deze vraag spookte lang door mijn hoofd. Maar zo aan het einde wordt alles mij duidelijk: ik doe dit om mijzelf te

ontwikkelen. Dat is waar het voor mij om gaat in een promotietraject. Terugkijkend was ik misschien niet opnieuw aan deze reis begonnen, maar wat ben ik blij dat ik het heb afgemaakt.